THE MEDICAL NEWS.

A WEEKLY JOURNAL OF MEDICAL SCIENCE.

VOL. XLII. SATURDAY, MARCH 17, 1883. NO. 11.

ORIGINAL LECTURES.

ON THE TREATMENT OF DISEASES OF THE NERVOUS SYSTEM.[1]

BY PROF. DUJARDIN-BEAUMETZ,

MEMBER OF THE ACADEMY OF MEDICINE, PHYSICIAN TO THE HOSPITAL ST. ANTOINE, PARIS.

THE NERVOUS SYSTEM FROM A THERAPEUTIC STANDPOINT.

GENTLEMEN: I do not make light of or conceal the difficulties of the task which I enter upon to-day. The study of the treatment of nervous diseases is, in fact, one of the most delicate and most difficult, for to the hygienic and medicinal measures with which we have thus far been occupied, we must add a certain influence of a moral kind, exerted by the physician, an influence altogether personal, which plays often a preponderating part, and which constitutes a veritable moral therapeutic agency, respecting which it is not at all easy to furnish precise and exact data. That obscurity and that hesitation which attend us at every step in the treatment of nervous diseases, result from a number of circumstances. Although, during the last twenty years, the study of affections of the cerebro-spinal axis has made immense progress, and this especially in our own country, under the powerful and sage impulsion which Prof. Charcot has given to the School of the Salpêtriére, there exists still, unhappily, numerous lacunæ in this study. Physiology itself, which has accumulated, for a great many years past, an innumerable number of works on this special subject, is far from having solved all the problems of the vital and physiological functions of the nervous system. As for therapeutics, it must be confessed that this department of medicine is still less advanced; not being able to base itself on positive physiological and pathological data, it has drifted about, having no guide but empiricism and tradition.

I believe it my duty, however, to show you in these lectures the office of the physician in diseases of the nervous system, and what he can accomplish in certain cases by sage and reasonable therapeutic measures. But that you may well understand the difficulty of the subject of which I am going to treat, and how fragile the physiological and therapeutical basis is on which rests the treatment of nervous diseases, I am going to devote this first lecture to the study of the nervous system from a therapeutic standpoint.

The nervous system, reduced to its simplest expression, may be represented by two elements, a nerve-cell and a conducting tube.

The nerve-cell, as you are aware, is composed of three parts: a nucleus, enclosing a nucleolus in its centre, a peripheral, homogeneous substance, and an excessively fine envelope. These cells present prolongations, more or less numerous, and their volume offers variable dimensions.

As for the nerve-tube, it possesses an investing membrane—the neurilemma. This neurilemma surrounds the nerve-fibrils, which are themselves constituted of three parts: an axis cylinder, continuation or prolongation of the cell; a transparent membrane, constituted by the myeline; and an external tunic.

As for the chemical composition of these substances, it has for its basis certain phosphorized oils, whose essential principle, according to Liebreich, is a neutral phosphorized body, which he has described under the name of *protagon*.

These cells and these nervous tubes, associated in divers ways, constitute the nervous system in its entirety. I do not purpose to enter into details of this structure; this is a point quite outside of my subject, and which would demand for its complete exposition, numerous lectures. But I desire, before going further, to draw a first conclusion from the several details into which I have just entered respecting the constitution of the nervous system. I refer to the application of phosphorized substances, and of phosphorus, to the treatment of diseases of the cerebro-spinal axis.

From the fact that nervous substance contains a large proportion of phosphorus, it is by no means demonstrated that the diseases of the nervous system, and in particular temporary perturbations of this system, such as those which constitute hysteria, for instance, are accompanied by a diminution of the phosphorus contained in the protagon. And even were this fact demonstrated, it would be necessary to prove that phosphorus, or phosphorized substances introduced by way of the stomach, are utilized for the nutrition of the nervous system; which is very doubtful. We encounter here (and shrouded in even greater obscurity) the same therapeutical problem which met us in the past, and which meets us to-day, respecting the action of ferruginous medicines. From the fact that iron is a constituent of the blood, we do not the better understand the *modus operandi* of chalybeate preparations. So we ought not to conclude, because phosphorus is an integral part of the nervous system, that therefore, *à priori*, the preparations of phosphorus are indicated in diseases of that system.

Seat of intelligence, sensibility, and movement, the nervous system plays a still more important part when we study its influence on nutrition throughout the entire animal series. The celebrated experimentation of Claude Bernard, in 1851, opened new and unlooked-for horizons respecting the *rôle* of the nervous system in the organism; and leaving one side all the discoveries which have flowed from this experimentation, I will consider only those which have a bearing on therapeutics.

Heretofore, in the study of medicinal substances, their action on the blood, and on the parenchyma of the viscera, was alone taken into account; it was thought that medicaments introduced into the economy modified the constitution of the blood, or even the tissue elements themselves, and from this double action their therapeutic and toxic effect was derived. The discovery of the vaso-motors, in showing us that the circulation, secretion, intimate nutrition of the tissues are under the dependence of special nerves—vaso-constrictors, vaso-dilators, trophic nerves—has considerably modified this experimental study, and even suggested the thought that henceforth the key to the great problem of the physiological and therapeutical action of the greater part of medicinal substances is to be found in the influence of these substances on the nervous system—on nerve-tubes and nerve-cells.

My duty now is to point out to you what are the positive facts pertaining to this subject, and what, unfortunately, are the too numerous points of uncertainty and obscurity.

[1] Translated, with permission of the author, from advance sheets, by E. P. Hurd, M.D., of Newburyport, Mass.

I cannot examine all the medicinal substances and acquaint you, for each one of them, with the positive and negative facts which are furnished us by experimental therapeutics, *àpropos* of their action on the elements of the nervous system.

This task would be immense, and would embrace therapeutics in its entirety. I have time only to consider briefly certain medicaments in their action on the cerebro-spinal or vaso-motor apparatus, and whose effects have been the most studied and are the best known.

Those medicaments which act on the cerebro-spinal axis, and whose effects are best known, are certainly the anæsthetics, which modify and alter, at a given moment, the functions of the nervous system. I propose here to examine, with reference to their modifying action on the nervous system, two substances—chloroform and alcohol.

Claude Bernard has given us a series of experimental researches on the action of chloroform, which are a model of their kind. In one fundamental experiment he shows us first of all, that chloroform cannot act unless it be absorbed by the blood and carried to the cerebro-spinal axis. I spoke of this last year when treating of the penetration of medicaments by the air passages, and will not return to it now. By repeated experiments he sought and obtained a solution of the second part of the problem which he set before himself, namely, what is the *rôle* respectively of the cerebrum and the spinal cord in this anæsthesia? Both are affected independently by anæsthetics; but the cerebrum, as Claude Bernard says, is the centre of centres; that is to say, when it is under the influence of chloroform, the anæsthesia generalizes itself over the whole economy, while, on the other hand, when the spinal cord alone is affected, the anæsthesia extends over only a limited zone of the organism.

By an attentive study of the phenomena which characterize the action of anæsthetics, the illustrious physiologist shows that the cerebro-spinal axis is not affected in all its parts at the same instant, and that, on the contrary, each one of them successively submits to the influence of the medicament. This order of succession is the following: The brain is first taken, and the consciousness of the ego is at once lost, but the spinal cord remains intact, and the reflex movements of the whole body persist. In a more intense degree of anæsthesia the spinal cord in its turn is overcome, but the medulla oblongata remains unharmed, presiding over the movements of circulation and respiration, which continue their function in a veritable cadaver, when every other sign of life has disappeared; the reflexes are abolished, anæsthesia is general, muscular collapse is absolute. But if you keep on increasing the dose of chloroform, the rachidian bulb is taken in its turn, and the animal succumbs; and in the interesting communication which he has lately made to the Academy of Medicine, Vulpian has shown us that if the rachidian bulb seems to be intact, it is nevertheless affected, and that in a chloroformed animal, it is only necessary to induce a slight nervous shock to suspend the functions of the medulla oblongata in its turn.[1]

By these experiments we see clearly set forth the part which pertains respectively to the circulation and to the nervous system in the action of the medicinal or toxic substance; the circulation bringing from the periphery to the nerve-centres the medicinal substance, and these, when affected by the medicament, generalizing the effect from the centre to the periphery. But this does not suffice; it is necessary to penetrate further into the subject, and demand what is the intimate action of chloroform on the nerve elements themselves. Claude Bernard has shown us by experiments of rigorous precision, that in the case of sensory nerves this momentary loss of their functions is absolutely analogous to what takes place when the sensory nerves succumb to abstraction of blood; or, if you prefer this statement, that troubles of sensibility manifest themselves at the periphery, while the action of the medicine is exerted on the centre (*i. e.*, the nerve-cells), in accordance with the law laid down by Claude Bernard, "the nervous element loses its properties by the extremity opposite to that where it is affected."

But what is the alteration of the nerve-cell produced by the contact of chloroform conveyed to it by the blood? Here we can only make hypotheses. The most probable is that which Claude Bernard has offered, viz., that chloroform causes an incomplete coagulation of the protoplasmic substance surrounding the cell-nucleus, that this coagulation is temporary, but that, under certain circumstances, it may be final.

The solution of the problem in therapeutics, which I have stated, is not yet complete, for there is another element of the nervous system which is to be taken into account, viz., the great sympathetic, which modifies, in its turn, the circulation, and especially that of the brain, and produces there that anæmia which is such a factor in the anæsthetic sleep, as well as in natural sleep, as Hammond and Durham were the first to show us. The effects, then, of anæsthetics may be partially explained by the action of chloroform on the ganglionic centres of the vaso-motor system.

What I have just said of chloroform, I may almost repeat, word for word, of alcohol. It also is carried by the circulation to the nerve-centres. Like chloroform, it disturbs, more or less, the action of the cerebro-spinal axis, determining at first phenomena of intoxication, then collapsus. Like the former, too, it modifies locally the circulation. So, then, certain substances penetrate, by the circulation, to the nerve-centres, and fix themselves there; as for alcohol, this fact is undeniable, and by direct researches on animals, and even on man, I have determined the presence of alcohol in the brain tissue itself. Other medicinal substances also localize themselves in the brain, and I cannot furnish you a better example than lead; in fact, saturnine encephalopathy is produced by the presence of this metal in the cerebral tissue, as has been proven by chemical analysis. Heckel has even shown that in animals submitted to lead-poisoning, this element, in fixing itself in the cerebral substance, alters the color of it.

So it is now known that certain medicaments, which produce modifications in the functions of the cerebro-spinal axis, act directly on the nerve-cells, and by their presence determine transient or permanent results, which modify the property of those cells; here, then, is a first fact which seems to be sufficiently established.

I must add that it is essential that the nervous ele-

[1] The respiratory centre in the medulla oblongata possesses a considerable resistance to the action of chloroform, but it is paralyzed in part, as the following experiment, performed by Vulpian, shows: In an animal not chloroformed, in which the pneumogastric nerve has been cut, if you electrize the central end of the nerve you determine complete arrest of the respiration; this lasts half or three-quarters of a minute. If you continue the electrization, the respiration resumes its course, and in order to obtain a new arrest of the respiratory movements, you must suspend for a time the electrization, to return to it again. In an animal plunged in the sleep of anæsthesia, electrization of the central end of the pneumogastric arrests respiration more readily than in the first case, and after this suspension the respiratory movements do not, of their own accord, come back again, and the animal, abandoned to itself, dies of respiratory syncope. This shows that the rachidian bulb is not in its normal state, and that the respiratory centre is weakened.—*Vide* Dictionnaire de Thérapeutique, D. Beaumetz, 1882, page 237. TRANS.

ments be intact, and this is a point to which I desire to call your attention, for it is of capital importance from a therapeutic point of view. We know, in fact, that under the influence of modifications, such as are determined by alcohol or by cerebral derangements, patients acquire a certain immunity from the therapeutic, and even from the toxic action of a great number of medicaments. We can, for instance, give to alcoholic patients, when affected with delirium tremens, or to maniacal patients, immense doses of morphia, atropia, or digitalis, without producing any symptoms of poisoning, although the same doses, in the same individuals, when in health, would speedily produce dangerous, if not fatal, symptoms.[1]

How shall we explain these facts? We can give a physiological explanation, based on a curious experiment of Claude Bernard and Paul Thernard. They etherized hares, then injected anhydrous prussic acid under the skin. Whenever the animal was plunged in the anæsthetic sleep, they could give him quite large doses of prussic acid without producing poisoning, but toxic symptoms appeared as soon as the animal recovered consciousness and sensibility.

This experiment is fundamental, and brings out with great clearness the capital fact, that when a nervous element is influenced or modified by a medicinal agent previously taken, it cannot be easily impressed by any other medicament. This explains the variable susceptibility to medicinal agents which some persons manifest—the tolerance of the nerve-cells for one modifier of function when influenced by another—the cases of mania above referred to, also those of alcoholic poisoning, where morphia in very large doses is borne with impunity. But as the action of the cerebro-spinal axis is in relation with the activity—greater or less—of the circulation, it is apparent that it is quite possible to modify the functions of the nervous system by modifying the circulation through the agency of medicinal substances. This it is that leads me to speak of the action of medicines on the vaso-motors.

Since the discovery of Pourfour du Petit, since more especially the curious experimentation of Claude Bernard, we know that the capillary circulation is dependent on the nervous system. This discovery immediately threw light on the actions of a great number of medicaments, and an attempt was made to divide them into two distinct groups, the one consisting of medicines that act on the vaso-dilators, the other of such as act on the vaso-constrictors.[2]

In the first group (of the vaso-dilators) were placed curare, opium and its alkaloids, eserine, and nitrite of amyl. In the second (or group of the vaso-constrictors)[3] a place was assigned to strychnia, ergot, belladonna, atropia, and the greater part of the poisons of the heart.

Unfortunately it must be admitted that this division is based rather on hypothesis than on any rigorous scientific demonstration of their action; and in order to show you how difficult is the subject, I will take from the two groups two substances, and will tell you what we know that is positive concerning their vaso-motor action. As representing vaso-constrictive medicaments, I will take ergot; as a vaso-dilator medicament, I will take morphia.

It was in 1849 that a Belgian physiologist, Savet, affirmed for the first time that ergot of rye, whose ecbolic action was well known, caused the arteries to contract. John Simon, in England, in 1850, taught the same doctrine, and both maintained that this constrictive action on the arteries was concerned in all the pharmaceutical and toxic properties of the drug.[1] But before these statements could be accepted as fact, they must be demonstrated by experiment, and Holmes, Wernich, Schuller, Vogt, showed in frogs, as well as in higher animals, cats and hares, the constrictive action on the arteries of these animals of ergot of rye and of ergotine.

But how is this action on the unstriped muscle of these arteries effected? Is it a direct effect, or is it brought about by an influence on the constrictor nerves? Here experiments are contradictory. Wernich and Schuller affirm that the contraction takes place when the vessel is deprived of all the nerves which it receives from the great sympathetic; Vogt, on the contrary, affirms that the vaso-constrictive action of ergot results from modifications wrought in the vaso-motor centres. As you perceive, physiology has not given a clear answer to the question, and, as Vulpian well says, we

[1] According to Vulpian, medicines which act on the vaso-motors are divisible into two groups, as given in the text (*vide supra*). These vaso-motor effects may be produced in various ways. Toxic substances may act on the unstriped muscular fibres directly, or primarily on the nerves, or vaso-motor nerve-centres. By direct examination, the effect of medicinal substances on the circulation has been studied, *i. e.*, by the sight, by the hæmadynamometer, and by the sphygmograph (Bordier's method); then by successive destruction of the vaso-motor nerve filaments, or vaso-motor centres, it has been attempted to limit the action of the substance under experimentation. Nevertheless, despite all the scientific rigor brought into these investigations, only confused and uncertain results have been obtained.—Vulpian, "Leçons sur l'Appareil Vaso-moteur," tome xii. p. 724, 1875. (*Vide* Bordier, Schaller, De Bernel de Pontives, etc.)

[2] I have seen teaspoonful doses of tincture of digitalis given in delirium tremens and in mania without any very perceptible effect. There is the same tolerance of chloral. I have given as much as three drachms (℥iij) in one night to a patient in delirium tremens, without producing any profound sleep; have seen five grains of morphia by mouth prove futile.—TRANS.

[3] In frogs poisoned by nicotine, Claude Bernard has seen arrest of the circulation in the interdigital membrane, and contraction of the arterioles. Hence he affirmed that nicotine has a vaso-constrictive action. In Vulpian's opinion, this arrest of the circulation is due to disturbance of the functions of the heart. It has been asserted that in animals poisoned by this drug ("nicotinized") the intra-arterial blood pressure is raised. Vulpian maintains, on the contrary, that if you will take the precaution to prevent all convulsive action by curarizing the animal, you will always find the blood pressure lowered, and there will be a marked congestion of the digestive tube, and especially the stomach. Sever the pneumogastrics in the neck, and there is no longer fall of the blood pressure. Heidenhain has shown that nicotine prevents the secretion of the submaxillary gland, without acting on the vaso-motors. From all this, it appears difficult to affirm that nicotine acts specially either on the vaso-motors or muscular fibres, and its action seems to be more complex than has been supposed.—Claude Bernard, "Leçons sur les Substance Toxiqués et Médicamentaires," 1857, p. 402, *et seq.* Heidenhain, Pflüger's Arch., t. v. p. 40–45. Vulpian, *loc. cit.*

[1] Savet, of Belgium, in 1849, and Simon, in 1850, first expressed the opinion that ergot causes the arterioles to contract. Savet attributed to contraction of the arteries all the phenomena which ergot determines (contraction of the uterus, of the bladder, etc.). Simon, on the other hand, affirmed a specific direct action on the unstriped muscular fibre everywhere. Holmes (Thèse de Paris, 1870), has studied experimentally the action of the ergot on the circulation. Injecting ergotine into the tongues of frogs, he has noted arterial constriction lasting twenty-five to thirty-five minutes. This effect was also noticed in the interdigital membrane after section of the sciatic nerve. He concludes that ergot has a direct action on the muscular fibres of the arterial walls.

Wernich, in experiments on hares and cats, has seen certain arterioles of the ear and pia mater contract, and this contraction take place even after section of the sympathetic, which innervates these vessels. Schuller has obtained the same effect in the vessels of the pia mater, after section of the cervical sympathetic.

Vogt, on the other hand, affirms that the active principles of ergot of rye act on the vaso-motor centres.

Vulpian is of opinion that these experiments are not demonstrative, and that the direct action of ergot on the smooth muscular fibre has not yet been substantiated.—Holmes (*loc. cit.*), Vulpian (*loc. cit.*), Wernich (*Virchow's Arch.*, 1872, t. 56, p. 19), Schuller (*Centralblatt*, 1871, No. 51), Vogt (*Berlin. klin. Wochenschrift*, 1872, No. 10), Labadie Lagrave, L'Ergot de Seigle en France, et en Angleterre (*Gaz. Hebdom.*, 1873, p. 249).

have as yet no decisive test-experiment on either side.

We find the same difficulty, *àpropos*, of the study of morphia. Doubtless, morphia brings about a congestion of the face, causes constriction of the pupil, and seems to produce a relaxation of the unstriped muscular fibres. But how is this action effected? This is a problem not yet solved.

Whatever may be the *modus operandi*, one may nevertheless say, taking his stand on data already acquired, that the group of spasmodic and anti-spasmodic medicaments owes its therapeutic action solely to the effect which these substances produce on the smooth muscular fibres, and that this effect is more likely indirect, being primarily exerted on the vaso-motors. It is, in fact, very difficult to affirm, with all the care that one may take in conducting the experiment, that one has destroyed all the nervous elements which innervate a group of muscles, or the walls of a bloodvessel. Moreover, in sectioning the nerves, the terminal extremities of the nerves still exist, and it is probable, I affirm, that it is by acting on these extremities that the contraction or relaxation of the muscular elements is produced.

But this is not all; medicaments act also on the secretions, and we must recognize the fact that this is one of the most important results that we look for in the administration of remedies; whether it be the kidneys, the salivary glands, or the skin with which we are concerned, we acknowledge the remedial efficacy, in morbid conditions of these organs, of diuretics, sialagogues, and sudorifics.

Till quite recently, it was supposed that certain principles contained in these medicaments, by a direct action on the glandular element itself, promote secretion; to-day, since the discovery of secretory nerves, this theory ought to be abandoned, and the admission made that these medicines act either directly on those nerves, or on the membrane of unification which binds them to the secretory elements.

But in order to show you, gentlemen, on what experimental data is based this new method of regarding secretory medicaments, I shall finish this lecture by briefly reviewing the curious experiments which have been made *àpropos* of the action of jaborandi and atropine in certain salivary glands.

Among these glands is one which lends itself readily to experiment, as far as the nerves which innervate it are concerned—the submaxillary. This gland receives two sets of nerves; one set comes from the lingual branch of the inferior maxillary, and from the chorda tympani; another set comes from the superior cervical ganglion. By destroying the latter, or cutting the former, one may study the influence of these two sets of nerves—whose origin is so different—on the secretion of this gland, for a tube introduced into Wharton's duct enables you justly to estimate the flow of saliva in the curarized animal.

When the chorda tympani is irritated, the circulation in the gland and the glandular secretion are augmented.[1] Heidenhain was the first to show that when an animal is poisoned by atropine, irritation of the chorda tympani produces augmentation of the circulation, but does not provoke the secretion of saliva; the atropine then has acted on the secretory nerves, but it has respected the vaso-motors. And if any one should say that the atropine has directed and limited its action to the secreting cell, whose effect it has destroyed, the reply is that we can restore the secretion of saliva by exciting the branch of the great sympathetic, which fact proves that the glandular parenchyma is not altered in its functions.

In another animal submitted to similar experimentation, but treated by subcutaneous injections of pilocarpine, instead of atropine, an increase in the secretion of saliva was noted. When, moreover, both these alkaloids were introduced, the one after the other, in the same animal, the phenomenon of exaggerated secretion was no longer seen, these two substances being in therapeutic antagonism. What does this experimentation show? It is this—that jaborandi does not determine the salivary secretion, as Gubler thought, by the presence of certain of its principles in the secreting cell itself, for we have seen by the first experiment that atropine does not destroy the properties of the cells, but that there is a special action on certain elements, which it remains for us to designate. What is the anatomical element on which atropine, on which jaborandi acts? Is it the nervous element itself? First of all, we must exclude all action on the nerve-centres or nerve-tubes. We have seen the action of atropine and jaborandi manifested in animals in which had been extirpated both the chorda tympani and the nerves from which it is derived, and the ganglia of the sympathetic; the effect then of these two medicaments must be exerted, if at all, on the peripheral portion of these nerves. But between the extremities of the terminal filaments of the branches of the sympathetic and those of the chorda tympani, from an anatomical point of view, no difference exists, and it is difficult to admit that a medicinal or toxic substance, introduced by the circulation, can leave intact the structure of one set of fibres, while altering the structure of the other.

It is probable, then, that it is not on the extremities of the nerve-fibres[1] that such toxic substances as jaborandi and atropine act, but rather on the "unifying substance," which is interposed between the nerve terminations of the chorda tympani, or sympathetic, on the one hand, and the secreting elements on the other.

What is this "unifying substance?" Here is a great anatomical and physiological problem which is not yet solved, and it is for the future to define it, and to assign to it its part in the process of secretion.

But I ought to assure you, that if the difficulties of these physiological problems augment in proportion as experimental analysis becomes more rigorous, it is none the less true that such researches give scientific

[1] When, after cutting the chorda tympani, you excite the peripheral end of that nerve, all the bloodvessels are seen to dilate, and the salivary secretion augments. Nevertheless, these two effects, the vaso-motor and the secretory, are distinct, for woorari, given in a certain dose, paralyzes the secretory action, without at all modifying the vaso-motor action. The same result is obtained with atropine or cicutine. The experiments of Vulpian, of Heidenhain, and of Joliet, are, in this respect, absolutely demonstrative. There are, then, medicaments which act on the nerves of secretion, without acting on the vaso-constrictors, or vaso-dilators. —Vulpian, "Leçons sur les Substances Toxiques et Médicamenteuses."

[1] Coyne has studied the terminations of the nerves in glands. He has found, under the limiting membrane of the parenchyma, triangular or elongated cells, with multiple prolongations, having all the characters of nerve cells. He has been able to follow the nerve fibres through to the cells, but has not succeeded in finding the connecting substance which binds the cells to the epithelial elements. Pflüger has described very fine nervous filaments terminating in the epithelium itself, but he is the only one who has yet traced these terminations in the epithelium of glands. Rouget disputes Pflüger's assertion that the fibres discovered by him were nervous filaments, for they keep their sheath of myeline to their termination in the gland substance—an exception to the rule.

Hermann, in observations of sweat glands, has seen fine nerve filaments in the limiting membrane of the glands. Caidiat explains the presence of these nerve filaments in this situation by the fact of the existence of a great number of muscular fibres in the parietes of the glands; he thinks that Hermann's nerve filaments are destined to innervate these muscular elements.—Coyne, "De la terminaison des nerfs dans les glandes," (Comptes Rendus de l'Académié des Sciences, 1878). Cardiat, "Traité d'Anatomie Générale," t. ii. p. 153.

precision to the study of the actions of medicines, and that it is in this way only that experimental therapeutics can progress.

Such are the general considerations that I desired to present to you relative to the nervous system considered from a therapeutic standpoint; they show you the difficulties of the problem and how these researches should be conducted in the future.

ORIGINAL ARTICLES.

NOTES ON THE MANAGEMENT OF RINGWORM OF THE SCALP (TINEA TONSURANS).

BY ARTHUR VAN HARLINGEN, M.D.,

CHIEF OF THE SKIN CLINIC, HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

I HAVE called the following remarks notes on the *management* of ringworm of the scalp, because they deal rather with the application of the remedies used than with the treatmcnt of the disease in the ordinary acceptation of the term.

There is no lack of good and efficient remedies for tinea tonsurans, and the chief reason for disappointment and failure in the use of these remedies lies, I think, in their unintelligent application.

It must be kept in mind that in ringworm of the scalp we have to deal with a subtile and penetrating fungus, which invades the follicles to their lowest recesses, grows with persistent luxuriance, and refuses to yield to any remedy, no matter how active it may be, which is not brought into intimate contact with every minute germ. It is perfectly useless to give the patient a parasiticide lotion or ointment with a vague, general direction to rub it on or into the diseased patches of skin. Though such an application may kill the fungus as it exists on the surface, it can not touch the germs which have penetrated the follicles, and there remain intact and ready to spring into new life as soon as the parasiticide is withdrawn.

To understand the difficulties which must be overcome in order that the parasiticide may be brought into contact with the fungus, it must be remembered that the hair-follicles of the scalp, while they are often as much as ⅜ of an inch in length, are only about $\frac{1}{50}$ of an inch in diameter; in other words, they are little wells nearly twenty times deeper than they are wide. When it is considered that the greater part of this narrow calibre is usually filled by the growing hair-shaft, the attempt to cure an old case of ringworm of the scalp, when the fungus has penetrated to the very bottom of the follicle, by smearing an ointment, or swabbing a wash over the surface, is seen at once to be a vain effort.

Depilation indeed is usually the first proceeding to which attention must be paid in the management of ringworm of the scalp; not the indiscriminate pulling out of all hairs in the neighborhood of the diseased patch, but the extraction of those only which appear to the naked eye, or to the eye aided by a small lens, to be diseased.

The difference in appearance between a healthy hair and one which has been attacked by the ringworm fungus, may usually be easily recognized by the naked eye. In the first place the diseased hair is broken off short with a length of ⅛ to ¼ of an inch. The spores by their multiplication have separated its fibres, and the texture of the hair has been rendered brittle. The broken end is split so as to look like one of those old-fashioned birchen brooms which are used to sweep the streets. The hair-stump itself is enlarged to three or four times the diameter of the healthy hair, and its lustre is diminished, so that it can be singled out from a group of hairs cut to the same length. The color also is usually lighter, and it has a dry lifeless look.

Depilation should be practised systematically, a certain limited area being selected for each operation, and not a few hairs plucked here and there over a large surface. Immediately after depilation the parasiticide is to be applied with the hope of penetrating the still yawning follicles from which the hairs have just been removed.

It must be remembered that, not only does the fungus penetrate the follicles in which it has been lodged, but it tends to spread by being carried about from one part to another of the head in brushing, rubbing, or scratching the scalp, etc. For this reason it is apt to be found at various points, and in examining the scalp in a case where a single characteristic patch has been found care should be taken to go over the whole head with a view of learning whether some incipient and superficial patches may not be found, the timely application to which of a parasiticide may nip the disease in the bud. The patient's head should be firmly held while the hair is turned back in successive rows from front to back, or *vice versa*, so that no points shall remain unexamined. Every diseased patch should of course be made the subject of active treatment, but some parasiticide should also be kept in contact with all parts of the scalp, in order that the floating fungus may have no opportunity to light upon any unprotected spot.

It is too often supposed that treatment need be applied only to the characteristic ashen-gray, slightly raised patches with their goose-flesh-like arrangement of broken stumps, which go to make up the typical picture of ringworm of the scalp. But, as has been pointed out, the fungus is so insidious that it must be looked for, not only here, but in all parts of the scalp, where its presence may be indicated by a few scales like a small round patch of dandruff, with perhaps a single stump of a diseased hair, or even one or two of those black dots in the scalp, which are the stumps broken off even with the surface, and which form the most troublesome points to reach with parasiticides. Now and then an isolated diseased stump may be found among the healthy hairs, and this, unless looked after, may become a focus of disease.

One of the mistakes sometimes made in the management of ringworm is that of having the scalp washed too often. The parasiticide, whatever its nature, should be left undisturbed on the surface. The longer it remains in contact with the skin, the more it is likely to penetrate to the points where its influence is most needed. Once in two weeks is often enough to wash the scalp in an average case.

In order that the remedies may be properly ap-

plied, the hair must be shaved or at least cut very short. My own custom is to direct that the head be kept closely shaved for a week or so, the remedies being applied regularly during that time, and that the hair be then permitted to grow for a day or two, in order to take an account of progress, and to see what proportion of diseased hairs still remain. Of course, the limited locality where depilation is being practised at any given time must be left unshaven, so that the hairs may grow long enough to permit of their being readily plucked.

It is generally best to apply remedies with a mop or sponge tied to the end of a stick, because the end of the finger is scarcely firm enough to be of service. The scalp, it must be remembered, is not as sensitive as other portions of the body, and will bear with impunity an amount of rough handling which would prove injurious elsewhere. Ointments as well as washes may be applied thus with advantage. I am accustomed to use mops made of old-fashioned candle-wick tied to the end of a stick the size of a crow-quill and five inches in length. These are made for me in quantity, and as they cost next to nothing may be thrown away as used.

Of course the scalp must not be made sore; when this occurs treatment must be suspended and valuable time is lost. There is a great difference in different individuals as to the sensitiveness of the scalp. An application which will agree with one child, and which may be rubbed in most vigorously with entire impunity, will in another by its mere application in the gentlest manner give rise to violent inflammation. In some individuals the scalp is so sensitive, especially when the ringworm has lasted some time and has been much treated, that none but the mildest remedies can be tolerated. It is always well to begin a little cautiously in severe cases or those of long standing, and it is never safe to send a patient away for some days or weeks with a new remedy, the effect of which in the case has never been tested.

(To be concluded.)

PHOTO-MICROGRAPHY BY ORDINARY LAMP-LIGHT.

BY GEORGE A. PIERSOL, M.D.,
OF PHILADELPHIA.

WITH the ever-increasing devotion to microscopical research, the need of ready and accurate means of reproducing what is seen in the instrument is becoming more and more imperative; while for elementary demonstration, or for the illustration of text-books the semi-diagramatic drawings are, probably, to be preferred; yet for original research regarding matters where differences of opinion and interpretation are likely to arise, some method less open to the charge of inaccuracy, from lack of artistic ability, or from a pencil influenced by preconceived ideas, is eminently desirable. To the more or less perfect fulfilment of these requirements photo-micrography has always laid claim.

Regarding the capabilities of photography in this connection nothing need be said, as all are familiar with the beautiful productions of the Army Medical Museum, from the hands of Dr. J. J. Woodward. It is, however, with a view of directing attention to the simplicity and readiness with which photography may be utilized that the present notes are offered.

The introduction and perfecting during the last few years of "dry" plates has greatly simplified what, during the "wet" collodion process, was more or less complicated work, requiring, for the best results, a considerable outlay for apparatus.

Formerly, when the "wet" plates were the only ones employed, some source of powerful illumination, as sun, calcium, magnesium, or electric light, was necessary. Sunlight, probably, is the best illumination for photo-micrography; but to be used with convenience and the best results a heliostat is almost indispensable, together with a suitable southern exposure, and leisure during the busiest hours of the day—necessities which surrounded photo-micrography with obstacles which but the few especially interested cared to overcome.

The introduction of "dry" plates has opened the way for convenient and efficient methods which before were impossible. As is well-known, the "dry" plates are much more rapid and sensitive than the older "wet" ones, being readily impressed by any illumination of ordinary brilliancy, even the ordinary kerosene lamp of the microscopist's table. While the applicability and efficiency of such illumination is becoming well-known, comparatively few seem to have availed themselves of it, notwithstanding the readiness of its application.

Believing that a concise description of the method employed with very satisfactory results may aid those desiring to experiment in this direction, a few hints as to the apparatus and manipulations employed are given, which may be modified to meet individual wants.

The first care in arranging for photo-micrography is a firm and convenient table or base; this is best a well-seasoned board, some six or eight feet long, and from fourteen to sixteen inches wide. This is securely fastened to some support, which may with advantage be a firm table of ordinary size; the board, however, should be raised to a convenient height to avoid uncomfortable stooping while working. About eighteen inches from one end of the base is a convenient position for the microscope, the tube of which should be placed perfectly horizontal, care being taken that a good balance be maintained. The eye-piece of the instrument is best removed.

Owing to the great sensitiveness of the "dry" plates to any white light, it will, ordinarily, be found much more convenient to employ a camera, which must be so adjusted as to be at a proper height and at right angles to the axis of the microscope. As the amplification desirable will probably require the image to be received at some distance from the instrument (from thirty to forty-eight inches), an "extension" between the camera and tube of the microscope is necessary, which can readily be made from a cone of card-board or tin, with the precaution that all joints are light-proof. The tube of the microscope, as well as the extension, should be lined with dead-black paper.

The position of the focusing adjustments is thus removed beyond reach when the operator is closely

observing the image on the ground-glass of the camera-back; some arrangement, therefore, for operating the fine adjustment from a distance is necessary. A very simple contrivance for this purpose, which has always answered with perfect satisfaction, consists of a piece of thin twine, which passes over the milled head of the fine adjustment (the latter being grooved to receive the cord) down to the edge of the board on either side of the microscope, one end passing through a screw-eye towards the floor, while the other is carried from the instrument by an occasional screw-eye along the further side of the board to any convenient distance, where it passes towards the floor; on either end of the cord are suitable balancing weights—fishing dipsies answer well—when by the slightest movement of the twine the fine adjustment is turned. The arrangement, when properly adjusted, is all that can be desired, by which a one-twelfth or one-fifteenth can readily and delicately be focused, and possesses the advantage over the much more complicated mechanical arrangements of but a nominal cost, and of being out of the way of the operator, and little likely to disturbance by an accidental knock.

A proper illumination forms an essential part of the apparatus. A good kerosene lamp with a flat wick should be used, the flame being turned with the edge towards the microscope, and being on a level with the axis of the stand; between the flame and the stage a large bull's-eye condenser is interposed about five inches in front of the stage, with the plane surface towards the flame, the latter being three or four inches further removed. Care should be taken to have the centre of the condensing lens and flame to correspond to the axis of the instrument.

For low powers, say from three inch to the half inch objective, no further condensation of light is necessary, but with higher powers the addition of an achromatic condenser is of decided advantage, being the most convenient means of obtaining powerful, as well as *graded* illumination. Especial attention should be given to having the light well centred and equally distributed over the field, the intensity being adjusted by the condenser to meet the requirements of the preparation to be photographed.

With an illumination arranged as suggested, the range of objectives which may be employed is, contrary to a seemingly prevalent idea, practically unlimited, as we have photographed with objectives ranging from three inches to one-fifteenth of an inch, giving from twelve to thirteen hundred diameters, with very satisfactory results.

The illumination is sufficient to allow the use of a cell of copper ammonio-sulphate; experience has shown us that the blue-cell is unnecessary with lamplight, as no trouble is found from discrepancy between the foci of the visual and actinic rays, since in the yellow light they are, probably, practically identical. With the two or three inch objective, the image is perfectly in focus, with all blue-cell or glass discarded. Similar conclusions have been taught by the observations of a number of others.

The plates which have seemed the most satisfactory are those known commercially as Eastman's "Rapid." With these the length of exposure will vary, with illumination, lens, and preparation, from three to twelve minutes; with medium powers, four-tenths to one-fifth, about six minutes will usually be satisfactory; with one-twelfth or one-fifteenth, a somewhat longer exposure is necessary.

Probably the greatest difficulty in photo-micrography is in obtaining an accurate focus. In order to conveniently see the image on the ground-glass when stationed at the microscope, a mirror should be placed at the end of the table opposite to the focusing screen, when the image will be conveniently reflected while working at the microscope. On finding the approximate focus, the operator takes his position at the ground-glass, and, by means of the arrangement already suggested, secures the exact focus. For many preparations the ordinary ground-glass answers perfectly; for very delicate structures, however, the plate-holder, with a piece of plain glass occupying the position of the sensitized plate, should be substituted for the ground-glass of the camera-back, when, by the aid of a focusing glass, the accurate adjustment is readily obtained. While by no means essential, yet a large, firm stand, with mechanical and rotating stage, will be found exceedingly convenient for work with the higher powers.

To insure satisfactory results, certain conditions should be fulfilled. Objectives with unquestionable definition are, of course, indispensable; flatness of field and sufficient angle to admit plenty of light being likewise important. The character of the preparation is also a vital condition of success, since not a little of the disappointment from unsatisfactory work is due to the attempted use of specimens totally unfit for photography. When sections, they should be as *thin* as possible, care being taken that they lie flat when mounted; but whatever the form of the tissue, whether section or not, it should be deeply stained and *well differentiated*, the last being especially important.

Regarding the purely photographic manipulations, it is beyond the province of these notes to speak, since efficient assistance may be obtained from many sources. While it is desirable that the plate should be developed soon after the exposure, in order to ascertain its quality, yet printing and finishing, and indeed all manipulations, may be left for the professional photographer. Such, however, being questions for each worker to decide according to circumstances.

While lamp-light by no means replaces sunlight for photo-micrography when much time is devoted to such work, or where the very highest amplifications are required, yet the simple method described offers pleasant and profitable employment for many an evening, and may be made the means of recording much that is interesting and instructive. By lamplight, at a very moderate cost, with the simple additions to the microscope described, any one may have the satisfaction of producing really good work, which, we know from experience, may equal that by the more complicated method by sunlight.

Were photography more generally utilized for illustration, microscopical science would be the gainer: the favorite diagramatic clearness of our drawings might be lost, but things would be represented more as they really appear.

MURMURS IN THE ABDOMINAL AORTA.

BY DR. EDWARD T. BRUEN,

DEMONSTRATOR OF CLINICAL MEDICINE IN THE UNIVERSITY OF PENNSYLVANIA.

WHEN cases are reported it is desirable that they should be accompanied by post-mortem examinations, or, if not, they should claim notice by their rarity. The following does not conform to either of the above standards, but as it represents phases of clinical diagnosis in which serious disease is suggested, its contents may still claim some general interest.

All physicians have probably met with a class of cases in which abdominal murmur is combined with symptoms of abdominal aneurism more or less conclusive, and yet the diagnosis of aneurism would be erroneous. The intricacy of these cases varies in proportion to the character of the combined clinical ensemble.

My case-book records the history of a gentleman, aged thirty, with a family history free from inherited tendencies to pulmonary or arterial disease, and with a personal record positively excluding the possibilities of syphilis or abuse of alcohol. He was apparently suffering from nervous dyspepsia attended with the voiding of urine containing an excess of urea, oxalic and uric acids, and oxalates. Upon examination a murmur was heard midway between the ensiform cartilage and umbilicus. The murmur was peculiar in that it was removed on full inspiration and complete expiration, and, therefore, was audible only during the interval between these acts. The quality of the murmur lacked the hollow echo distinguishing a bruit, but corresponded with the blowing murmur induced by pressure of the stethoscope over the superficial arteries. There was severe pain on assuming the upright posture, accompanied by pulsation in the epigastric region.

These facts rendered the suspicion of abdominal aneurism tangible. The diagnosis became a question of exclusion by probabilities. The age and habits of the patient were adverse to aneurism by an etiological survey. The absence of positive tumor, of transmitted murmur, of thrill, and the want of constancy in the intensity of the murmur, all combined to place the question of aneurism among the remote possibilities of the case.

A close analysis of the prior history of the patient disclosed the fact that some years before he had suffered from an indistinct form of peritonitis complicating typhoid fever. This suggested enlargement of the mesenteric lymphatics as a possible cause of pressure, the excessively violent aortic pulsation being referred to serious vaso-motor disturbance, and presumably the pain was due to the throbbing of the aorta against the vertebra, as happens in aneurism.

Instance second: A young man of twenty-three years of age presented himself to me, complaining of a severe dull pain in his back, a pain more severe when he resumed the sitting posture to write or when walking than when lying down. There were also some sharp darting pains down the limbs. The pain had troubled him for six months before he applied for medical advice. Disease of the spinal chord, caries of the vertebræ, renal or pulmonary disease could be set aside. The examination of the arterial system was also negative, and there was no history of rheumatism in any form. Six months later the pain persisted as at first, although at times it had been decidedly mitigated. On auscultation, just below the ensiform cartilage, a short puff was audible, not unlike a dull systolic cardiac sound. This murmur increased in intensity during expiration; it was not transmitted into the femorals, but it was suggested on auscultation posteriorly over the last dorsal vertebra. There was no thrill, nor could any tumor be felt on abdominal palpation.

From the standpoint of diagnosis, the consideration of the personal history disclosed habits of perfect temperance, and the freedom from specific taint. His youth, and the family history (his father having died of old age, mother having died of phthisis), the local character of the murmur, and the absence of thrill or tumor, all negatived aneurism. Yet that a local lesion existed was clearly probable, and the query arose, could a local atheroma occur from a local inflammation due to strain or injury? Or might such injury have occasioned inflammatory changes in the tissues adjacent to the aorta distinct from the arterial, and yet sufficient to induce pressure upon the aorta, and thus produce a murmur? The patient had been a cricketer, and fond of outdoor exercise, and this rendered the hypothesis of a local injury more plausible. This case may be said to be incomplete, since so far no conclusion has been reached. It is useful, because it shows the shade of difference in the symptomatology between murmur in the abdominal aorta having a possible organic genesis, contrasted with the evidently functional.

The third example presents to us a similar murmur in the aorta in the epigastric region. The patient, a male, aged between thirty and forty, was admitted to the hospital suffering from chronic malaria, with congestion of the abdominal vessels and viscera. No other striking symptoms were noted, and the murmur vanished after a six month's course of treatment.

In example fourth, a murmur occurred in a patient in whom the etiological probabilities, considered with the age (which was over fifty-five years), rendered the diagnosis, by election, a local patch of atheroma.

These cases are representative of a number of a similar character which have come under my notice. Certainly, they establish an important clinical fact, that murmurs in the abdominal aorta are not infrequent, and that they are associated with quite various conditions, often specially obscure. It is preëminently important to make a guarded diagnosis, because very often the symptom is transient,

or associated with more or less remediable forms of pathological process, distinct from lesion of the aorta. Pain, one of the fundamental symptoms of aneurism, is often a positive element in these fictitious aneurisms.

To unravel these complicated cases in the absence of a recognizable tumor and characteristic murmur, the marked influence of etiological factors which predispose to arterial disease is probably a most useful ally. In 34 cases in Netley barracks, 17 had a distinct, and 5 a probable syphilitic history, 3 of associated syphilis with alcoholism, 2 with well-marked rheumatic diathesis associated with acute manifestations, and only 6 without report as to systemic condition. The same writer states that out of 117 cases, 46.1 per cent. of the cases gave undoubted syphilitic history, 6.8 per cent. a probable history of syphilis, 21.3 per cent. occurred in phthisical subjects, 5.9 per cent. with heart disease, 5.7 per cent. with various diseases, 14.2 per cent. without record as to constitutional state.[1]

Ziemssen states that aneurism is eleven times more frequent in the English army than in civil life. We must, then, admit that the ensemble of aneurism must nucleate a sufficient number of the characteristic symptoms, such as pain, tumor, pressure-symptoms, and characteristic bruit, or thrill, before we can convert the diagnosis of election into the diagnosis of demonstration. In instance third, the murmur was associated with hepatic congestion and venous repletion of the mesenteric circulation. Murmurs in such cases must be distinguished from venous murmurs, due to narrowing of the portal vein by pressure, or disease of its coats. This is readily accomplished by observing that venous murmurs are continuous, and are not synchronous either with the systole or diastole of the heart. It is posssible that in some of these cases enlarged mesenteric glands in the vicinity of the pancreas, or indeed that organ itself, might produce the pressure. The etiology, however, of abdominal murmurs is very obscure, and one must be content to recognize their occurrence, since the absence of an autopsy has frequently prevented ultimate study. The murmurs usually disappear after appropriate alterative and tonic treatment. The case instancing a patch of local atheroma has been cited, because murmurs having this etiology occur, and the pathology has been demonstrated by post-mortem examination.

January 10, 1883.

HOSPITAL NOTES.

CITY HOSPITAL OF EVANSVILLE, INDIANA.

FRACTURED PELVIS.

(Reported by L. D. BROSE, M.D., Ph.D.,
DEMONSTRATOR OF ANATOMY IN THE EVANSVILLE MEDICAL COLLEGE.)

S. V., German, æt. 58 years, single, fell through a hatchway on the first floor in a furniture factory, striking the cellar floor with his left hip. He was unable either to rise or walk after the fall, and was brought to the city hospital suffering great pain. Here the physician in charge examined him and administered an opiate to alleviate his suffering. The accident happened about eight o'clock in the morning, and I did not see the case until about four o'clock in the afternoon when the patient presented the following condition: pulse rapid and feeble; surface cold, and the system laboring under shock.

He complained of pain about the left hip; was unable to lift the leg or rotate the limb. There was considerable bruising of the tissues in the region between the great trochanter and the crest of the ilium, pressure here causing acute pain. There was no eversion of the foot, and on rotating and extending the thigh, I failed to elicit crepitus. On measuring from the anterior superior iliac spine to the internal malleolus, and from the upper edge of the great trochanter to the median line of the abdomen, no shortening could be detected either in the shaft or neck of the femur of the injured side. Acute pain was also produced by pressure over the symphysis pubis and on exerting pressure over the two iliac crests, but no distinct crepitus was thus elicited. Crepitus and much pain, both deep-seated in character, were produced by flexing the thigh at right angles with the body and strongly abducting the limb. A catheter had not been passed into the bladder, and on inquiry I learned that he had passed his urine an hour previous, but that the attendant had thrown it away without examination. From the nature of the injury, the seat and character of the pain, and the absence of any shortening or eversion of the thigh, I diagnosed a fracture of the pelvis running into the acetabulum. A broad bandage was applied around the pelvis, sand bags placed along the thigh, and a lotion of lead water and laudanum ordered for the contused region. His evening temperature was 98.2°, pulse still rapid and feeble, but his general condition was comparatively that of comfort. The following morning the abdomen was much distended, very tympanitic, tender on pressure, and the patient complained of pain in the left breast. Auscultation disclosed a localized dry pleuritic friction murmur, and the cardiac apex beat displaced towards the right. There was no increased dulness on percussion, and on inquiry from the patient I learned that several years previous he had had an attack of pleurisy.

A turpentine stupe relieved the pain in the left breast, and a large one over the belly also lessened the abdominal tympanitis. The circulation continuing poor and the extremities cold, a mixture of tr. opii, tr. belladonnæ, and carb. ammoniæ was ordered, together with hot bottles to the feet. The evening temperature was between 99° and 100°, pulse continued feeble; ordered milk punch twice daily, and the turpentine stupe to the belly to be repeated. Examination of the urine by the resident, Dr. Gudgel, disclosed no albumen. Next morning I found the patient much improved, having rested well during the night; tympanitis less, and some return of the appetite. On the fourth day an enema of castor oil and turpentine was administered, which moved the bowels freely. The patient continued to improve, and on the seventh day of his admission, the tongue being heavily coated and the bowels constipated, ordered ol. ricini and syr. rhei aromat., each half an ounce. This produced free evacuation, the tongue cleaning in the course of a few days, while his appetite and general condition improved very much. The swelling over the seat of the injury being now much diminished, the lead water was discontinued, and a simple broad bandage retained around the pelvis.

On the thirteenth day of his injury, Dr. E. Linthicum being in the house during my visit, I asked him to see and examine the case with me, as the diagnosis prior to my taking charge of the case had been that of impacted intracapsular fracture of the femur, and my

[1] Med.-Chirurg. Trans. for 1876.

own diagnosis had since been questioned. On measurement we detected about a quarter of an inch of shortening in the length of the limb, but no shortening in the neck of the femur. Requesting Dr. Linthicum to place his hands over the great trochanter, I rotated the limb, but only caused the man pain without eliciting distinct crepitus. At the Doctor's request, I exchanged places with him while he rotated the thigh, but I could detect no crepitus, and our examination producing great pain, the patient sitting up in bed saying he could not breathe, we discontinued our manipulation. The seemingly asthmatic attack continuing and the face becoming livid, I gave him a drachm of Hoffman's anodyne. This failed to mitigate his dyspnœa and substernal pain. I next prepared a solution of morphia and atropia, but before I could inject it he asked for the bed-pan, had an evacuation from the bladder and rectum, became pulseless at the wrist, and death ensued in a few minutes, the intellect remaining clear with no signs of palsy up to the last.

Necroscopy.—Extensive old pleuritic adhesions over the left lung, the lower lobe of which was highly emphysematous, exhibiting several large blebs on its anterior surface near the base. The lung tissue was otherwise healthy. Over the right lung there were also adhesions, but of minor extent, and the lung substance itself was normal. Pericardium normal. Heart in diastole softened, but not enlarged. Cavity of the right ventricle contained two small clots, soft in consistency, of dark color, and post mortem in character. Valves normal. Left ventricle normal in size and without valvular lesions. Abdominal cavity free from hemorrhage. Spleen enlarged. Liver and kidneys normal. Dotted over the small intestines were flakes of yellowish lymph. Exarticulation of the hip-joint; neck of femur unfractured, and head of bone normal. Running from the acetabulum upwards to the sacro-iliac junction was a large simple fracture of the ilium, without any displacement of the fragments.

The case is one of great interest from the occurrence of sudden death whilst the patient had been daily improving and gave every promise of a good recovery. During the entire time he was in my charge I noticed that his extremities became cold after the slightest exposure; that the pulse was easily compressed, in fact, that his nutrition was poor and that he had a very weak heart. Part of his treatment consisted in the daily use of hot bottles to the extremities, to keep up their warmth. The cause of his death was most probably due to cardiac failure, arising either from the acute pain experienced whilst we abducted the thigh, or from his suddenly rising in bed and thus overstraining an already weakened heart, or both causes operated together.

The case illustrates an important point in the treatment of such subjects, that we make use of stimulants from the beginning; that we guard against sudden changes in position, such as suddenly assuming the sitting posture after having been in the supine position for a number of days, and that we take especial care how we inflict pain by unnecessary and repeated examinations of the injured parts.

MEDICAL PROGRESS.

CYST OF THE SPLEEN.—A case is reported in the *Deutsche Med. Zeit.* of a man who received an injury from a falling brick in the region of the spleen ten years ago, which caused the patient considerable pain for five or six days. One year before the operation, or nine years after the injury, a tumor about the size of a fist made its appearance in the left lumbar region, increasing in size very slowly at first, but at the end of a year the growth assumed the dimensions of a child's head. The tumor was slightly movable and presented a certain amount of fluctuation. The author made an explorative laparotomy and, when seeing he had a cyst of the spleen to deal with, concluded to make a radical operation. The cyst was punctured and a large quantity (1300 grammes) of straw-colored liquid escaped. The walls of the cyst were very much attenuated, and at a point or two it was adherent to the peritoneum. All the vessels connected with the growth were carefully ligated with catgut in two places, and the tumor was removed. Very little bleeding followed, the pedicle was returned, abdominal wall sewed up and wound treated antiseptically (no drainage). Patient recovered without any untoward symptoms, and was able to walk around in two weeks. Four weeks after the operation patient complained of pain and weakness, and presented a peculiar sallow appearance, but at the expiration of four and one-half months he had recovered sufficiently to follow his occupation. Shortly after the operation (about eight days), the author examined a specimen of the patient's blood, finding an increase of the white blood corpuscles and a diminution of the red. The condition of things gradually changed, as the patient was improving, and at the end of four months blood was perfectly normal. Ten months after the operation patient is healthy, and no sensitiveness over the region of the spleen.

The observations in this case are of great importance to the physiologist. They prove, in the first place, that the spleen can be removed from the animal organism without any special danger; second, the removal of this organ causes a temporary disturbance in the formation and relative proportion of the blood corpuscles; and third, its function is to change the white blood corpuscles to red ones. The observations in this case correspond exactly with the experiments made on animals.—*Cincinnati Lancet and Clinic*, March 10, 1883.

BASILYSIS FOR DYSTOCIA FROM HYPERTROPHIC ELONGATION OF THE CERVIX UTERI.—Three years ago PROF. SIMPSON described an instrument for breaking up the fœtal head, and he has just reported a case in which it was used with success on account of dystocia from cervical elongation. After anæsthetization the uterus was kept fixed by pressure on its fundus with one hand, while the other fixed the head by pressure above the pubes. The vault having been perforated on the side next the anterior wall of the cervix, the point of the basilyst was guided to the anterior part of the base, in front of the sella turcica, and screwed in to the shoulder. When the blades had been separated it was felt that the structures were broken up. To effect more complete comminution the instrument was again applied just behind the sella turcica, and on its withdrawal the base of the skull felt relaxed. No blood escaped during this proceeding, showing that the child was dead, and the maternal structures were not injured. Some brain matter escaped during the operation, and the rest was evacuated by douching. Traction on the head was made by the fingers, support and counter-pressure being applied to the lips of the cervix during its extraction. The head was delivered easily, but difficulty was experienced with the shoulders, the circle of the os fissuring in different directions, especially at the left side, where the parts were somewhat thin. The distention by the shoulders also wounded the left nympha and adjacent portion of the vestibule anteriorly and the right posteriorly. The cervix was well douched with carbolized water, and digital pressure applied to the wound of the left nympha in order to stop the bleeding. The placenta was expelled in about

twenty minutes, and shortly after some (post-partum) hemorrhage occurred. Ergotin was injected freely into the buttocks. The patient's pulse was now very feeble, and her condition critical, from the loss of blood with her previous weak state. Ether was administered intramuscularly, and stimulants and digitalis by the mouth. Bandages were applied firmly to the legs from below upwards, and combined external and vaginal pressure to the uterus maintained for about two hours.

The patient gradually rallied, and the passages having been again carefully douched with carbolized water, the lacerated surfaces were dusted with iodoform before the patient was put to rest. The child was born at 1.20 P. M., thirteen hours and twenty minutes after commencement of labor; third stage, twenty minutes.—*Edinburgh Med. Journal*, March, 1883.

PROLONGED DIPHTHERIA.—DR. DE GASSICOURT (*Rev. Mens. des Mal. de l'Enfance*, Jan. 1883) contributes a paper with the above title, by which term he does not mean either the chronic or the subacute form of the disease, but he would thus describe a class of cases which (in their early history) have nothing to distinguish them from ordinary cases, but which, instead of terminating either in death or recovery within a period fixed in the paper at a month, continue longer, as evidenced by the "incessant reproduction" of false membranes. In other words, by prolonged diphtheria he means diphtheria "prolonged beyond the ordinary limits. To the question of why such cases should occur, he finds no answer. Attention is drawn to the fact that in the reported cases there was no evidence of systemic poisoning during the period of reproduction of false membranes, and this is explained on the supposition that the membrane is merely a product of the disease, and that in no case does it either primarily or secondarily cause systemic poisoning. Two cases are detailed, in one of which, after an ordinary attack lasting twenty-seven days, the child completely recovered its health, but false membranes continued to form for nineteen days; and, in the other, a hospital interne was compelled to travel for nine months after his convalescence before the formation of false membranes ceased. Several cases are then considered under the designation of croup, but which were, the author states, instances of diphtheria of the air-passages, as evidenced by their clinical history—the occurrence of albuminuria, etc. He holds that cases may be prolonged, 1st, where tracheotomy is unnecessary; 2d, before tracheotomy becomes necessary; and 3d, after its performance. Instances are given where the disease was prolonged from fifty-five to one hundred and fifty-one days. In all such cases the author states that any danger which may arise will be of a mechanical, and never of a toxic, nature.—*Edinburgh Med. Journal*, March, 1882.

NEPHRECTOMY.—At the meeting of the Academy of Medicine in Ireland, held December 8, 1882, MR. STOKES, Secretary of the Surgical Section, on behalf of MR. F. J. O'REILLY, exhibited a kidney, which Mr. O'Reilly had removed by lumbar section from a patient, aged 26, in the Trim Union Infirmary, who suffered from symptoms of disease in the right kidney and pus in her urine, together with a constant desire to pass urine. The quantity passed daily was fairly normal, and the specific gravity ranged from 1015 to 1020. A favorable opinion was thus entertained of the capabilities of the left organ to discharge the increased functions with which it was about to be taxed. The operation was by the vertical lumbar, or postperitoneal method, and was performed antiseptically. The vessels and ureter were secured by a whipcord ligature. The external wound was closed with interrupted sutures, and antiseptic dressing was applied. The patient suffered from vomiting during the late stages of the operation. The gland weighed eight ounces, and an abscess-cavity at its superior extremity contained about two ounces of pus. The vomiting and depression, which manifested themselves during the operation, continued, and the patient sank and died forty hours after the operation. About an ounce of urine was drawn off with the catheter previously to death, and did not contain a trace of pus. The kidney was a specimen of primary tubercular disease. A *post-mortem* examination was not obtained, but the wound was investigated, and found free from blood-clot and perfectly aseptic.—*British Med. Journ.*, January 6, 1883.

THE ACTION OF MUSCARIN.—FRANZ HÖGYES, in a paper on the action of muscarin on the circulatory system, shows that muscarin lowers the functional activity of the central nervous system, and after a short time paralyzes it, whilst it at the same time slowly lowers the excitability of the peripheric nervous system. He demonstrates that the dilatation of the vessels after injection of the muscarin is an immediate consequence of the paralyzing action of this poison on the vasomotor centre. At a later period there appears to be diminution in the excitability of the smooth muscular tissue of the body. Muscarin inhibits the action of the heart, because it lowers the excitability of the automatic nerve centres in the organ, and in fact abolishes it; and with this action it causes a gradual diminution in the excitability of the muscular tissue of the heart itself.—*Lancet*, February 24, 1883.

THE PRODUCTION OF MONSTROSITIES.—The recent studies of M. CAMILLE DARESTE have confirmed his earlier views as to the production of monstrosities. He shows that the eggs may preserve their vitality and develop in a perfectly normal manner even if the temperature of the incubator falls several degrees below the temperature which is usually regarded as essential to normal development. Abnormal deviations in development are much more likely to be produced when the temperature becomes elevated over the normal degree, and when some time is allowed to elapse between the laying and incubation of the egg.—*Revue Scientifique*, February 24, 1883.

EPITHELIUM OF THE CERVIX REMOVED DURING PREGNANCY WITHOUT CAUSING ABORTION.—At the meeting of the Obstetrical Society of London held February 7, 1883, an account of this case was read by DR. GODSON. The patient, aged 35, had suffered for twelve months from yellowor watery fetid discharge, latterly from hemorrhage and occasional pain. Till then she had been healthy. The cervix was enlarged and ulcerated; the uterus was mobile. The cervix was removed by the écraseur four days after the cessation of hemorrhage believed by the patient to be menstrual; no bad symptoms followed. Nine days after the operation a sound was passed into the uterus, and four days after this a fœtus of about eight weeks' development was expelled. The author remarked that he believed the abortion was due to the use of the sound, and not to the operation. He advocated the removal of cancerous growths, if possible, at any stage of pregnancy. His case supported the view that cancer favored the occurrence of pregnancy, the patient not having been pregnant for six years previously. He remarked on the patient's previous good health, the late onset of pain, and the importance of not pulling down the cervix when using the écraseur.—*The Lancet*, Feb. 24, 1883.

TRANSFERABILITY OF ALOPECIA PREMATURA.—LASSAR and BISHOP (*Monats. f. prakt. Derm.*, July, 1882) relate some experiments which seem to point to the contagious nature of alopecia prematura. A young man of twenty-five, himself healthy and of a family not predisposed to baldness, had become bald over the front part of the head within five or six years. The hair near the bald part was lustreless, and came easily out when pulled, while numerous fine scales were clustered over the surface. The hair and scales which were brushed off were mixed with vaseline to form an ointment, and this applied to the skins of a healthy rabbit and guinea-pig. These, in the course of rather more than three weeks, became bald over the parts on which the ointment had been applied, and an abundant scaliness was produced. The scales and hairs from these animals were likewise made into an ointment, and this caused marked baldness in a rabbit to whose skin it was applied. From it, again, a third was infected, and it became the baldest of all. In the meantime the head of the young man was treated by washing with tar soap, and application of corrosive sublimate lotion, solution of naphtol, and carbolic oil. This was continued eight weeks, when a new and stronger growth in the bald and partially denuded parts was plainly visible. An ointment made from the fallen hairs, now only $\frac{1}{80}$ part in weight than before treatment was begun, when applied to a rabbit, caused no morbid symptoms.—*Edinb. Med. Journ.*, March, 1883.

THE VENOM OF THE COPPERHEAD.—DR. ISAAC OTT draws the following conclusions from an experimental study of this subject:

1. The venom of the copperhead is weaker in toxic activity than that of the rattlesnake.
2. The heart, with both kinds of venom, becomes greatly prostrated, and in rapid deaths is their main cause.
3. The venom of either snake does not affect the sensory nerves.
4. The sensory centres are affected by both venoms.
5. The muscular excitability continues to be little affected at the time of death by the poison of the copperhead.
6. The two venoms greatly resemble each other in physiological activity.
7. The cardiac force, rhythm, and frequency are lowered by both venoms.
8. The arterial tension is greatly lowered by both venoms.
9. The blood, after copperhead poisoning, shows no microscopic changes of its globules, or any difference in its spectrum.—*Virginia Medical Monthly*, February, 1883.

EXTERNAL ŒSOPHAGOTOMY FOR DYSPHAGIA.—H. HADLICH reports the case of a man in whom dysphagia was caused by lordosis of the cervical vertebræ and enlargement of the cricoid cartilage. The œsophagus was opened in the neck, and stitched to the edges of the wound. No disease existed in the walls of the œsophagus. Feeding was carried on through the opening in the neck for a while, when the patient learned to swallow in the normal way, and the fistula into the œsophagus was closed. For a time all went well, but in about six months the dysphagia again appeared, but could be overcome by repeated dilatation. Death finally occurred when away from the hospital. No post-mortem could be obtained.—*Centralb. f. Chirurg.*, October 28, 1882.

BOROGLYCERIDE IN THE TREATMENT OF PURULENT OPHTHALMIA.—MR. HARTRIDGE, of London, has for several weeks tried the effect of boroglyceride in a few cases of purulent ophthalmia which have come under his care at the Central Ophthalmic Hospital. The way in which he has employed it in purulent cases has been to evert the lids, and, after cleaning away all pus and secretion with cotton-wool, to brush the mucous membrane over with a 1 in 10 solution of the boroglyceride, taking care to introduce it well under the upper lid. This has been repeated daily, and in the interval the mother has been instructed to bathe and clean the eyes and lids every hour with a 1 in 40 solution. No other treatment was used, and the cases began to improve at once, being usually well in from eight to ten days. Where one eye only was affected, he has, after brushing over the lids, applied a piece of lint soaked in 1 in 20, covered with a pad of cotton-wool, and bandaged the eye, with the result of preventing the sound eye from becoming attacked. In all the cases the cornea was unimplicated.

Boroglyceride is an antiseptic introduced by Prof. Barff, and has been used considerably in Germany in surgical cases, and also for domestic purposes, the preservation of meats, etc. It is made by the chemical combination of boracic acid and glycerine in certain proportions, whereby a new compound, boroglyceride, is formed.

The following are some of the advantages of this antiseptic: It is readily soluble in cold or hot water; it is odorless, tasteless, and unirritating; a 1 in 10 solution dropped into the eye causes scarcely any smarting; and, according to its introducer, it is innocuous. —*Lancet*, February 17, 1883.

SPECIFIC VULVO-VAGINITIS IN INFANCY.—Simple vulvo-vaginitis is not rare in children, and is most frequent before the fifth year, and then again at the time of puberty. Out of 3,921 girls treated at DR. RICHARD POTT'S (*Jahrbuch für Kinderheilkunde*) clinic, from 1876 to 1882, there were 44 cases of obstinate, long-continued, more or less profuse, purulent or muco-purulent discharge. These cases, which continue so long, and are so severe, the author claims are, almost without exception, specific and contagious. The author emphasizes this point, and was able to demonstrate, in nearly all of his cases, that the mother either had gonorrhœa or syphilis. That the membrane of the vagina is not affected as often as that of the eyes, is explained by its more protected situation and shorter exposure during delivery. In fact, contagion, in most cases, takes place after delivery, from fingers, towels, sleeping in the same bed with parents who have gonorrhœa, or directly from one child to another. These are by far the most frequent methods. In only two of the above cases could direct contagion from the male penis be proved, in both of which the fact was explained by the superstition among the peasantry that connection with a virgin instantaneously cures clap. In six of the forty-four cases, the children had congenital syphilis with marked manifestations. It was found, however, that general treatment was not sufficient to cure the discharge, even though it entirely removed the other manifestations.

The author's method of examination is very thorough, including speculum and microscope, but there is not great difficulty in making the diagnosis.

His treatment, for a long time, has been about what is generally recommended, and has been very unsatisfactory. He now recommends two things. The first is the rupture or complete removal of the hymen, in very obstinate cases. This usually brings about a rapid cure. But lately he has found a remedy which he thinks will make even this unnecessary. It is iodoform. He used it first in powder form, but that being too troublesome, he now uses it in the form of bougies, five to eight cm. long, and as thick as a small lead-

pencil. These are passed in till the lower end is just within the hymen. No intoxication ever occurred, and the effect is "eclatant." In only two cases has he had to put in more than one bougie.—*American Journal of Obstetrics*, March, 1883.

GASTROSTOMY FOR IMPERMEABLE CARCINOMATOUS STRICTURE OF THE ŒSOPHAGUS.—O. KAPPELER performed gastrostomy on a man sixty-nine years of age, who was almost at the point of death from starvation, on account of stricture of the œsophagus. After opening the peritoneum the stomach was stitched to the edges of the wound, and Lister's dressing applied for four days; union was then firm, and the stomach was opened. No febrile reaction followed the operation, and the patient's general condition greatly improved. Death occurred in four weeks from the appearance of the disease in the lungs.—*Centralb. f. Chirurg.*, October 28, 1882.

THE TREATMENT OF CHOLERA INFANTUM BY KOUMISS.—A. KRASIN (*Aerzt. Nacht. aus St. Petersb.*) in this paper repeats numerous published observations; and, having regard to them and to his own experience, the writer warmly recommends the employment of koumiss in the above disease. In cases of collapse, he uses the ordinary koumiss on account of its great stimulating power, but as a rule he has recourse to the variety which has been allowed to ferment for one day only. *Edinburgh Medical Journal*, March, 1883.

TRI-CHLORATED PHENOL AS A DISINFECTANT IN GANGRENOUS WOUNDS.—DIANIN (*St. Petersb. Med. Woch.*, No. 38, 1882) states that the compound which he describes under the above name is made by mixing carbolic acid and chloride of lime. He summarizes its properties and clinical uses as follows:

1. Tri-chlorated phenol is twenty-five times more powerful as a disinfectant than carbolic acid.
2. Even very small quantities prevent fermentation entirely.
3. It is a very powerful antiseptic—more powerful, indeed, than any of those in common use at present, such as the permanganates, solutions of chloride of calcium, carbolic acid, thymol, salicylic acid, and boracic acid.
4. It is not only a powerful disinfectant, but it destroys evil odors as well; the peculiar odor of the compound itself can be masked by mixing it with oil of lavender (five drops to the grain).
5. When applied in substance to a wound or ulcer, it is slightly irritating, but the solution has no irritating properties.
6. It is undoubtedly useful in the treatment of soft chancres, and in diphtheria.
7. The salts of tri-chlorated phenol possess the same disinfectant properties that the phenol itself does, and its soda salt is free from odor.
8. The lime salt of tri-chlorated phenol is cheaper than carbolic acid.—*Virginia Medical Monthly*, February, 1883.

THE AGE OF PUBERTY IN WOMEN IN FINLAND.—From the histories of 3,500 women in Helsingfors, DR. G. HEINRICIUS states that the average age at which menstruation commences is 15 years 9 months and 25 days.—*Centralb. f. Gynäkol.*, February 3, 1883.

IODOFORM IN DIABETES MELLITUS.—PROF. BOZZOLO (*Gazetta degli Ospitali*, Feb. 4, 1883), following up Moleschott's researches, has tested the action of iodoform in the treatment of diabetes, and with good results. He has given as much as thirty grains daily. In one slight case glycosuria was almost completely suspended; in a very severe case the quantity of sugar was reduced; in both patients diminution in the amount of urine was noted. Balp and Negro, investigating the subject in Bozzolo's clinique, have come to the conclusion that the administration of iodoform in diabetes, in doses of from fifteen to thirty grains, diminishes the amount of urine and the elimination of sugar, the number of red globules and of hæmoglobin, and likewise reduces the arterial tension.—*Lancet*, February 17, 1883.

GASTROSTOMY FOR CARCINOMA OF THE CARDIA.—E. ROCHELT reports the case of a man aged 70 years, who had for a year and a half suffered from difficulty in swallowing, and in whom finally it became impossible even to swallow liquids. A gastrostomy was therefore performed through an incision five centimetres long, parallel to the lower border of the ribs. The stomach, which was very much contracted, was drawn through this opening, incised, and then stitched to the edges of the wound with thirty-five catgut sutures. Death occurred three days after the operation, from weakness. It should be stated that for five days before the operation the patient was unable to swallow liquids. No autopsy was permitted.—*Centralb. f. Chirurg.*, October 28, 1882.

AN IMPROVED METHOD OF CIRCUMCISION FOR CONGENITAL PHIMOSIS.—DR. NEIL MACLEOD recently operated on a child of two years in whom the orifice of the prepuce scarcely admitted the point of a probe, but by dilating this orifice forcibly with "sinus forceps," and the addition of a few tiny snips with scissors round the margin of the orifice thus dilated, the foreskin could be drawn back until the point of the glans showed itself. Further retraction was prevented by the adhesions referred to, but these were easily broken down by means of a probe passed between the prepuce and the glans, and this done until the corona glandis was exposed in its whole extent. The prepuce was next replaced forwards, and the amount to be cut off was marked by a clip arrangement made by tying two ordinary directors, groove to groove, at one end and slipping the prepuce into the clip formed by the untied ends. Three carbolized silk threads were then passed through the prepuce at equal intervals close to the clip on its proximal side, the glans being guarded as the needle was passed, and each thread being of sufficient length to form *two* sutures. The prepuce in front of the clip was then cut close off, the clip separated, the penis released, vessels twisted, the threads fished up with a blunt hook from the now enlarged preputial slit, cut and then tied on each side. The orifice in the inner or mucous layer of the prepuce can then be slit with scissors down to the corona, but this is unnecessary if the clip is put on so that the line of section runs in the direction from the corona to the orifice of the urethra.

The surface of the glans being anointed with vaseline, a plug of absorbent cotton dipped in one to twenty solution of boroglyceride made an excellent dressing, and was kept applied by a bandage passed round the abdomen, knotted behind, and the two ends brought forward between the legs over a piece of light macintosh or oiled silk, the bandage ends diverging so as to include the genitals, then converging and being looped through the bandage crossing the abdomen. The absorbent pad was changed every time that urine was passed. Healing took place by first intention, and not a trace of odor was detected from first to last. Carbolized catgut sutures would have been better than silk, as they do not need to be removed.—*Edinburgh Med. Journal*, March, 1883.

THE SYMPTOMATOLOGY OF PERICARDITIS.—This paper by ROSENBACH (*Deutsche Med. Wochen.*, Nos. 44-46, 1882), is founded on a consideration of five cases of pericarditis, in all of which, besides friction sounds at the base, there was a murmur at the apex apparently of mitral origin. In the first two cases mitral insufficiency was diagnosed, but was not found on post-mortem examination. The succeeding cases were then more carefully studied. The grounds for considering that in none of them was there insufficiency were, that one came to the post-mortem table, and that in the other two the murmur gradually became fainter and ultimately vanished as the pericarditis improved, while no symptoms of valve lesion showed themselves. In character the murmur in those cases was long and very distinct; the first part of it was blowing, and it invariably ended in a whistle. The heart sounds were distinctly audible. Usually the point of maximum intensity was outside the apex beat, and the line of propagation more marked towards the axilla than towards the base of the heart. Pressure on the intercostal space, where it was best heard, caused no alteration in contrast with endocardial murmurs, which, as a rule, become weaker on firm pressure being applied. In one case the murmur disappeared when the patient lay on the right side. The writer suggests that the presence of this murmur may prove useful in diagnosing between pericarditis and pericardial pleurisy, and also that it may account for some of those cases in adults where a systolic apex murmur exists without any other indication of valvular disease.—*Edinburgh Med. Journal*, March, 1883.

PERCHLORIDE OF IRON IN SKIN DISEASE.—DR. CARSARINI (*Rev. Clin. di Bologna*) gives the following results:

1. Perchloride of iron is a most efficacious remedy in purpura hæmorrhagica.
2. In the chloro-anæmia accompanying certain skin diseases—as rupia, eczema, impetigo, etc.
3. Its external use is very favorable in scrofulous and syphilitic ulcers.
4. Squamous affections are markedly modified by applications of a liniment of perchloride of iron.
5. It may be used as a lotion, dissolved in two or three parts of water, or as an ointment—one, two, or three grains of perchloride of iron to thirty grains of vaseline [cosmoline] or lard. The author has used it in psoriasis, in the form of a pomade—ten grains of iron, thirty grains of lard or glycerine.—*Virginia Med. Monthly*, February, 1883.

THE RELATIONS BETWEEN THE TIMES OF OVULATION, FECUNDATION, AND COPULATION.—PROF. PANUM reports a case which seems to prove that the human spermatazoa may preserve their vitality in the genital tract of the female for as long a time as three weeks. A woman, aged 43 years, menstruated from April 3d to 5th, had connection with her husband on April 10th, and did not menstruate or copulate again until June 8th, when a slight hemorrhage occurred, followed by abortion on June 10th: the fœtus was perfectly fresh, and is stated by Prof. Panum to have been from four and a half to five weeks old.—*Nordiskt Med. Arkiv*, 1882, Bb. xiv. m. 26.

A NEW FORM OF POSTERIOR LUXATION OF THE SHOULDER.—F. BOTTEY reports the case of a woman, aged 78 years, who fell and dislocated her right shoulder. The head of the humerus could not be detected, either under the acromion, or in the infraspinous fossa, but was found two fingers' breadth below the acromion, behind the outer border of the scapula, lying in the wall of the axilla, so that a deep depression was formed between the head of the bone and the acromion. The author describes this variety of luxation as downwards and inwards, or retro-axillary. It is also worthy of note, that the arm was about half an inch shortened, that it did not stand off from the body, and that it was in a position of moderate supination with the elbow directed forwards. Reduction was readily accomplished by direct pressure on the head of the humerus.—*Centralb. f. Chirurg.*, Jan. 6, 1883.

CHALAZION.—Those foreign bodies which accumulate in the orifices of the Meibomian ducts must be removed either by skilfully pressing them out through the excretory orifices or by laying open the duct and removing them. Saline aperients and a course of the iodide of iron with occasional doses of quinine, usually put an end to the disposition to the formation of these bodies. A good plan is to dilute ten minims of strong commercial acetic acid with one ounce of distilled water, and apply to the closed lids by saturating small pieces of sheet lint and laying them over the lids. These applications may be kept up for an hour at a time every day until perceptible relief is manifest, when the duration of the treatment may be diminished gradually every day until it is no longer demanded. This is an especially efficacious method of dealing with the calcareous or chalky degeneration of accumulated Meibomian matters.—*Medical Herald*, March, 1883.

TANNATE OF CANNABINE.—By distillation with water Indian hemp yields an ethereal oil consisting of cannabine and cannabine hydrate. It is a golden-yellow liquid with a disagreeable odor and taste, and very poisonous. A small quantity when subcutaneously injected causes very great local irritation, and produces an inflammatory swelling similar to that of an immense abscess, the swelling being accompanied by a high degree of fever. The hydrate of cannabine is moreover easily decomposed and is therefore unfit for use in medicine. When combined with tannin it forms a stable compound which does not appear to possess any poisonous properties, but when given internally acts as an excellent hypnotic.

Dr. Fronmueller, of Fürth, has recently described in the *Zeitschrift fur Rati. Prackt. Aerzte*, 1882, p. 257, the results obtained from its use in the treatment of various diseases. He finds that it possesses the advantage over extract of Indian hemp of not passing through the intestines without being absorbed. He considers that it is also preferable to the extract on account of its more equal strength. He has remarked that the extract of Indian hemp now met with in commerce is much stronger than it used to be. Thirty years ago he found eight grains were required as a dose; twenty years ago four grains proved effectual, but two grains are now usually sufficient.

Dr. Fronmueller experimented with the tannate on 73 patients, 21 of whom were men and 42 women, and most of them had previously been tried with opiates, or with a subcutaneous injection of morphia. The doses given were usually 0.1 to 0.3 gramme, but in cases of maniacal insomnia as much as 1½ gramme was given. In no case was vomiting or constipation produced. It appeared to be especially useful in cases in which opium caused excitement, or in which it was desirable that an hypnotic should not cause constipation. Only in exceptional cases was any sign of intoxication produced.

A small quantity of alkali renders the tannate soluble in water.—*Midland Medical Miscellany*, February, 1883.

THE MEDICAL NEWS.

A WEEKLY JOURNAL

OF MEDICAL SCIENCE.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will be liberally paid for upon publication. When necessary to elucidate the text, illustrations will be furnished without cost to the author. Editor's Address, No. 1004 Walnut St., Philadelphia.

SUBSCRIPTION PRICE, INCLUDING POSTAGE,

PER ANNUM, IN ADVANCE, ... $5.00.

SINGLE COPIES, ... 10 CENTS.

Subscriptions may begin at any date. The safest mode of remittance is by bank check or postal money order, drawn to the order of the undersigned. When neither is accessible, remittances may be made at the risk of the publishers, by forwarding in REGISTERED letters.

Address, HENRY C. LEA'S SON & CO.,
NOS. 706 & 708 SANSOM STREET,
PHILADELPHIA, PA.

SATURDAY, MARCH 17, 1883.

LEGAL PROTECTION OF THE INSANE.

THE time is ripe for legislation as to the insane. Some time since we commented on the utterly insufficient safeguards as to commitment of the alleged insane. We do not believe, as we have plainly said, that the Rev. Mr. Newton's views are correct. Few, very few of the sane, are ever confined in insane hospitals. To picture the horrors going on "behind the bars" will do for sensational novelists and sensational preachers, but the pictures are over-wrought, and rarely true. Yet we all want to make sure that they shall *never* be true. And further, if the lunatic becomes of sound mind, we want to be certain that liberty shall go hand-in-hand with restored mental capacity. Further than this the public perhaps do not go, but the profession do. They desire that the insane shall have thorough scientific investigation and treatment, and that post-mortem examinations and pathological studies shall add constantly to the sum total of our knowledge of psychiatry.

We are led to these reflections especially by a perusal of the report of the commission lately appointed by the Governor of Pennsylvania to investigate the existing lunacy laws, and to suggest improvements in them. Among the eminent gentlemen of the commission are such well-known medical men as Drs. S. Weir Mitchell, J. A. Reed, and J. T. Rothrock, names which in themselves are a guarantee that the bill which they propose is, in general outline at least, wise and proper. This bill is now before the Legislature, and we hope most earnestly that it will pass, with some amendments which we shall suggest, and which we regard as important.

It provides for a Lunacy Committee connected with the State Board of Charities, of which one member shall be a physician, and one a lawyer, each of at least ten years' practice. This Committee shall issue licenses to all hospitals for the insane, whether public or private, and with the Attorney-General and the Chief-Justice of the Supreme Court, make general regulations for their conduct. They shall appoint Boards of Visitors, of which women may be members, who with the Committee shall constantly inspect and investigate all such institutions, and at frequent stated intervals examine into the condition of the patients. After due notice to the hospital authorities and to the persons committing any alleged lunatic, they may discharge any such whom they believe to be improperly detained in custody. The physicians upon whose affidavit any person is so committed, whether to public or private insane hospitals, may not be graduates of yesterday, but must be practitioners of at least five years' standing, not related by blood or marriage to the lunatic, nor connected with the hospital to which he is to be committed. Correspondence is not only to be inviolate, but is to be stamped and forwarded daily, and any desired communication is to be written at dictation and forwarded, and any person whom the lunatic may desire to see is to be sent for. Case-books are to be kept for recording each case in proper detail. The criminal insane are also properly to be cared for.

It is also suggested, though not included in the bill, that the chronic and incurable insane shall be simply and cheaply cared for separately from those requiring active remedial measures, in economical small detached buildings connected with the larger hospitals; that convalescent wards be established to separate those returning to reason from the seriously insane; that employment by farm labor, teaching each other, and other modes of occupation shall be provided; and that restraint be but sparingly employed, if at all.

Our readers will see that this is a most excellent bill, and far in advance of our present imperfect and inadequate laws.

The objectionable features as we look at them are not many, and, in general, are of minor importance. In guarding the rights of the insane we must be careful not to trench upon the rights of their proper and necessary custodians. That provision which makes the medical attendant responsible for costs in cases of habeas corpus, unless the judge shall certify that there was sufficient ground to warrant the detention, is certainly objectionable. Insanity is a disease from which recovery is slow, and the exact period when reason is restored and competency to act for one's self returns, can only be fixed

with difficulty, and often after weeks of careful observation and repeated tests. To leave this question to the decision of a judge, a non-medical man, and perhaps prejudiced against the respondent on general grounds is unwise. If it must be so left, it should be put negatively, and more strongly, that he should certify that there was "clearly *no* sufficient ground for the detention."

Moreover, to empower a Committee of five, of whom only one is a medical man, to discharge any alleged lunatic is perilous. They should only do so on a favorable report from a board of competent alienists, whom they should be authorized to appoint for the investigation of every doubtful case.

Again, the medical officer is required to enter his opinion, *i. e.*, make a diagnosis, in his case-book, within twenty-four hours after the patient's admission. Surely a week would be none too long a time in many of the complicated cases. Sometimes they require even a much longer time and intimate study to furnish sufficient data for an exact diagnosis which may at any moment be made the subject of a legal inquisition. Snap diagnoses are most of all out of place here.

The family or other physician designated by the friends is allowed to prescribe for the patient for all other ailments than insanity—a dangerous privilege, involving many a possible conflict. That he should always be allowed to visit the patient and investigate his condition, is evidently just and right; but not to treat him. Nay, we would go further; with Clark Bell, we would give the lunatic or his friends the right at their own cost to have his mental condition investigated at any time by experts unconnected with the hospital.

One very good provision of the bill is that persons may sign away their liberty, and voluntarily enter an insane hospital and be kept under restraint. Many cases of drunkards and opium eaters could thus be satisfactorily treated. But the time allowed by the bill—seven days, with privilege of repeated renewals for a like period—is too short. Thirty days should be fixed as a maximum. Less than that will do but little good.

Finally, in the matter of correspondence there ought to be some surveillance, lest serious evil be done. Suppose that a young lady while insane writes an indecent letter, it may be to an indiscreet friend or to an enemy. The bill allows no discretion. The letter must be sent. After her recovery shall that letter ever stare her in the face, and compromise her good name? and shall the sane be daily annoyed by receiving voluminous and disturbing epistles? No letter should ever be retained or destroyed lest, under the guise of protection, the patient be wronged, but let the bill be amended after the English law. By it every letter must be forwarded to the person addressed, unless the Superintendent deems it an improper communication. If so, he endorses his opinion on the letter and it is forwarded to the Commissioners of Lunacy, who dispose of it properly.

CLIMATE IN THE TREATMENT OF CHRONIC ALBUMINURIA.

IN reply to the queries of our correspondent as to the relative advantages of a warm and dry climate, as compared with a warm and moist one, in the treatment of chronic albuminuria, we would state that the chief advantage of the former lies in the fact that in such a climate the surface of the body is less apt to be bathed with moisture than in the latter; consequently there is less danger from exposure to draughts of air, which always operate more seriously in chilling the body of which the surface is moist than that which is dry. It is well known that exhalation from the skin is greater in a dry atmosphere than in a moist one, although it is less apparent. In the latter, the perspiration becomes more sensible because its evaporation is less rapid. For these reasons we prefer a warm and dry to a warm and moist climate; although the latter is, of course, to be preferred to a cold climate.

It is of advantage, also, if such a climate include a section of country in which aperient mineral waters are natural. Hence it is, that southern Germany is so suitable, the waters of Marienbad, Franzenbad, Carlsbad, and Püllna fulfilling this indication. All of these places are in Bohemia, and within a short distance of Prague. Marienbad, beautifully situated two thousand feet above the level of the sea, probably fulfils the requirements best of all. In this country we know of no places which afford both of these advantages; but of warm and dry climates, that of southern California (Santa Barbara and Monterey), and the west or Gulf coast of Florida are recommended. For warm climates, regardless of dryness, the places of usual resort in Florida and the Gulf States generally, fulfil the indications. Mobile, Alabama, in consequence of the beauty of its situation, as well as several hamlets in its vicinity, and San Antonia, Texas, may be mentioned, as well as Aiken, South Carolina, and Augusta and Thomasville, Georgia. Nor should Bermuda be omitted, for although not in our own country, it is quite accessible, and its climate scarcely surpassed.

Our attention has recently been called to the climate of Sabinas Hidalgo, in the State of Nuevo Leon, in Mexico, one hundred and twenty miles from Laredo Texas, as peculiarly dry and equable. It is said to be easily reached by trains with sleeping cars from St. Louis *via* San Antonio to Laredo

and the Mexican National Railway. Doubtless the recently established railway communication with Mexico will open to us numerous other localities in which the elements of a dry and warm climate are furnished.

LATHYRISMUS.

As this term may be new to our readers, it is, probably, desirable to enter into some explanatory details. *Lathyrus* is a genus of leguminous plants, and *lathyrismus* is a condition of the system induced by the consumption of a bread composed, in part, of the flour of *Lathyrus cicera* (everlasting pea). As ergotism results from the long-continued consumption of ergotized rye, so lathyrismus is produced by the persistent use of a bread composed in part of a flour of lathyrus. Quite independently of its economic aspect, the use of a flour producing such effects, has an importance determined by the character of the attendant phenomena.

In 1873, lathyrismus was reported on by Prof. Cantani, after an investigation made of the disease as it appears in certain parts of Italy. It is not limited to Italy, however, since Bourlier, in 1882, described, in a clinical lecture, the same malady as it appeared in Algiers. Last year, also, Dr. Giorgieri, of Parma, gave an account of two new cases which had occurred under his observation. The accounts thus far published agree in the character of the nervous disturbances produced by this substance. The effects of lathyrus, or the condition called *lathyrismus*, correspond closely to the symptoms belonging to antero-lateral sclerosis. The same gait; the same spastic rigidity of the muscles; and the accompanying nervous disturbances characteristic of this disease, are reproduced in the affection caused by lathyrus. These results may be due to the presence of an alkaloid in lathyrus, or they may be the product of changes effected in the intestinal tube. The former view has no novelty, but the latter opens up a wide range of speculation, and is suggestive both from the physiological and from the chemical side. As from amygdalin and emulsin, both without toxic action, hydrocyanic acid, the most powerful of poisons is produced, so it is possible, under conditions not now comprehended, for other innocuous agents to become the means of generating morbific principles. In the acute infectious diseases, alkaloidal substances are formed in the intestinal canal, and in dead bodies ptomaines are elaborated. It may be, that under some circumstances, articles of food, in themselves harmless, become the agencies for the formation of disease-producing materials. In the search for an explanation of morbid actions occurring in the nervous system, such agencies should have due recognition, in the absence of more specific causes.

TEMPERATURE OF THE LIMB AFTER NERVE-STRETCHING.

M. REDARD has ascertained, by the use of a thermo-electric apparatus, that in animals after elongation of the sciatic, the temperature of the limb operated on notably declines, and this reduction persists for two or three months. He also observed that the temperature on the sound side falls, but to a less extent and for a shorter time. Several conclusions may be deduced from these observations, if they are true as stated. M. Redard does not allude to any experiments of control. As a marked reduction of temperature takes place in certain animals—rabbits notably—by mere confinement and arrest of all muscular action, we need to know in respect to these experiments, what were the conditions of the animal during and subsequent to them, and whether any control observations were made?

If it be clearly established that by the stretching of a nerve such wide-spread effects follow, this operation can no longer be regarded as local. If, when the sciatic is stretched, the temperature of corresponding areas on the opposite side is distinctly affected, we cannot avoid the conclusion that the results of nerve-stretching include an impression on the trophic centres. We have in this result, then, an explanation of the influence exerted on locomotor ataxia by the operation of pulling on a sciatic nerve.

If Redard's experiment be supported by subsequent experience, Voit's opinion that the effects of nerve-stretching are local in result, will no longer be tenable, but the opposite view must then be maintained, that nerve-stretching affects the central nervous system.

Another conclusion to which these experiments conducts us is, that heat production is not wholly a chemical process, but is under the control of the nervous system. It would be absurd to state this as a novel view; nevertheless every fact conclusively showing this effect of nervous influence has importance. In respect to this, as the other point above discussed, we need to know how far Redard's observations were suitably controlled. Temperature is so decidedly a result of physiological activity of muscular tissue, that when it is affirmed that nerve-stretching affects the body-heat, we wish to know how far other conditions may have interfered in the results in this direction also.

VENTILATION OF SEWERS.

M. WURTZ, of Paris, has recently made a series of analytical tests with the object of determining the effects produced by the free admission of air into sewers, or, in other words, by thorough ventila-

tion. The results of these experiments are important, inasmuch as they reveal the fact that the free circulation of air in sewers acts beneficially, not only by diluting and dispersing sewer gases, but also by destroying them chemically.

Mr. Eassie has described the manner in which these changes take place in the sewers, as demonstrated by M. Wurtz. He says that when the motion of the waters renews the surfaces, bringing them incessantly in contact with oxygen, when there is a free current of air in the sewers, the sulphuretted hydrogen becomes readily oxidized, and inodorous, non-volatile sulphates of ammonia are formed. This reaction is rendered still more energetic by moisture, which is always present in the air of sewers and is deposited by the condensation of steam against the brickwork and the walls of the water-mains, as well as of all the other pipes which are placed inside the Paris sewers. These large humid surfaces hold in a state of solution such portions of the highly soluble gases as may not have undergone a chemical change, and thereby prevent their expulsion into the outer air. On the other hand, however, when the ingress of air into the sewers was stopped; when the water, on becoming stagnant, discontinued the process of multiplying its surfaces of contact with the oxygen; not only did the sulphuretted hydrogen cease taking up oxygen to transform itself into sulphates, but the sulphates themselves, which had previously been formed, would be resolved by the organic matter in course of decomposition. This organic matter, depriving the sulphates of their oxygen, would reduce them to sulphites or sulphuretted hydrogen, and then would follow a black settlement, an evolution of bubbles, and layers of slimy froth.

As to the effect of free ventilation upon the minute morbific organisms which are supposed to infest sewer-air, and which all efforts have thus far failed to isolate, little can be said from the standpoint of experimental knowledge: but it seems reasonable to believe that these subtle organic elements, as well as the gaseous constituents of sewer-air, are oxidized in part and dispersed by the free admission of atmospheric air; and that there is less chance for their development, concentration, and transportation into the apartments of our dwellings, through the channels of sewer connections, under the conditions of free ventilation above mentioned, than when the sewers are trapped and hermetically sealed, and direct communication with the outer air is, in this manner, prevented.

THE RIGHT TO MAKE AUTOPSIES IN HOSPITALS.

LAST year a case was decided in England which is of special interest to hospital staffs, as it involved the question of the right of a doctor to make an autopsy. A post-mortem examination had been made on the body of a child dying in hospital, but no previous communication was made to the relatives, nor was their consent asked or obtained. The medical man was charged with improper mutilation of the body. The magistrate, after a week's deliberation, ruled that the Anatomy Act did not apply, and that the surgeon would not be liable to indictment unless it could be shown that the examination had been conducted in such a way as to offer an indignity to the body.

We are not aware that a legal decision has been given in any similar case in this country. It is, however, such an important point, especially in hospitals, that we should be glad to know that our American courts held the same view as the English. Gratuitous services, often very prolonged and requiring great skill, are but poorly requited when the medical man is allowed at least to learn all he can from such a case. Yet we have known the right to be often denied, and hospital authorities are so afraid of criticism, that they not seldom join with the relatives in refusing to allow such an examination.

COLLEGE GYMNASIUMS.

No one who has visited the magnificent gymnasium of Harvard, will hesitate to listen to anything that Dr. D. A. Sargent, its director, has to say as to physical education in colleges; and no one will rise from reading his article in the February number of the *North American Review*, without approval of his views, founded, as they are, on reason and common sense.

Some facts that he gives surprise us. The maximum of time for physical education required in the best of our colleges is but four half hours a week, and that for only a small part of the year. At Harvard, Princeton, Yale, and Cornell, less than five per cent. of the students are rowing men. Not over ten per cent. of college students pay any attention to physical education, and less than six per cent. do it systematically. That their development is lop-sided is no wonder, the athletes running chiefly to muscle, and the scholars to mind. Each alike forgets that a symmetrical development of both is necessary to make the complete man, *totus et teres*, if not also *rotundus*. The remedy Dr. Sargent proposes is simple, sensible, and efficient. It is first, a good gymnasium; second, that physical exercise shall be a required study throughout the course; and thirdly, that there be an instructor, who ought to be a college graduate, a gymnast, and a doctor. He should have competent authority in his department, adapt the exercise, both in kind and degree, to the individual student, and keep systematic records of the progress of each

student. Those who know the value of the "Sargent System" will appreciate what immense service such a course would do to the physically neglected young men in our colleges. We commend the paper to the thoughtful consideration of college authorities, with the hope that its suggestions may be adopted, not only in men's colleges, but in women's, in which it is needed even more.

THE NEW ANATOMY ACT.

THE new Anatomy Act has passed the Pennsylvania State Senate, and has gone to the House with two seriously damaging amendments.

The first is that, in addition to relatives, "any person" may claim the body for interment. This is a direct encouragement to "body-snatching." It is clear that medical schools *must* have subjects for dissection, or else close their doors and let the education of physicians, so far as they are concerned, cease. Under this amendment what is to hinder "any person" from claiming *every* dead pauper or criminal, ostensibly for interment, but really for the use of the medical schools? What is to hinder them from effecting a pretended or a real burial on private property, to be followed by a disinterment and sale —a sale always guarded under the euphemism that the charge, exorbitant though it be, is only for "transportation"! And again, what is to be done if two or three such persons claim the same body?

The other amendment very properly provides that the medical men of each county shall have prior right to the unclaimed dead of their own county, but adds that the bodies shall be held subject to this claim for a period of *ten days*. This completely defeats the objects of the bill so far as it is intended to relieve the pressing needs of the medical schools of the State. To carry out this clause would necessitate each almshouse, morgue, and prison to provide means for their preservation from decomposition — a practical impossibility. Even in winter, unless so preserved, every body would decompose in less than ten days, and in summer two or three would be enough to render them useless.

We hope that the physicians throughout the State, recognizing the unreasonableness of these amendments, will at once use their personal influence to secure their defeat in the House. The medical schools of the State, while desirous of increasing their own facilities for teaching, are also anxious, as the original bill shows, *to aid the profession throughout the State* in securing material for practical study in anatomy and surgery, a privilege the present law denies to them. In return, a hearty support should be rendered to the just claims of the medical schools of the State—a support which we have no doubt will be cordially given, now that the provisions of the bill are properly understood.

REVIEWS.

A SYSTEM OF HUMAN ANATOMY, INCLUDING ITS MEDICAL AND SURGICAL RELATIONS. By HARRISON ALLEN, M.D. SECTION III.—MUSCLES AND FASCIÆ. 4to. pp. 243 to 334. Philadelphia: H. C. Lea's Son & Co., 1883.

THIS admirable work goes on steadily to completion. The praiseworthy features we have already pointed out in our notice of Sections I. and II., are as noticeable in this. The anatomical descriptions are, in general, models of brief but sufficient statements. Both student and practitioner will find the text free from the elaborate and minute descriptions which, while important and proper in a descriptive anatomy, properly so called, would be out of place in a work intended to deal so largely with the clinical relations of anatomical facts. The literature of the profession has been thoroughly searched for cases illustrative of the applications of anatomy to medicine. We find perhaps fewer references to comparative anatomy than the previous well-known studies of the author would lead us to expect, but those that are introduced are to the point.

Having expressed heartily our high opinion of the work, we beg also to submit a few points of dissent, and to indicate some needful corrections. The plates are, in general, improvements over those of the previous sections, but have a certain rawness or harshness about them which we regret, and they are not wholly free from errors. Thus pl. xliii. has the lev. ang. *oris* as lev. ang. *superioris*. Pl. xlviii. has the extensor *indicus*. In neither this nor the preceding plate is there any good representation of the flexor sublimis digitorum, and in no plate a satisfactory one of the palmar fascia. In pl. xliii. and in the systematic list of the oral muscles appears the lev. lab. infer., as well as the mentalis, but in the text no description is given of the former, and in the plates the latter is nowhere shown. On p. 305 Dr. Buck's name is misspelled as Gordon, instead of Gurdon, and on p. 306 the foot-note numbers are wrong. As to omissions in the text, we note that the function of the omo-hyoid is not stated, and that the muscles of the perineum of the male only are given. The muscles of the female perineum, as also those of the larynx, will be given, we presume, in later sections. The superior and inferior recti, it is stated, roll the eye-ball upwards and downwards, no reference being made to their inversion of the ball, due to the angle between the axis of the ball and that of the muscles. So, too, dislocation of the patella outwards is ascribed to the superior strength of the vastus externus, no mention being made of the effect of the obtuse angle of the bones at the knee. The statements as to the functions of the extensor communis digitorum and of the interossei are to our mind not at all satisfactory. Rising from the reading of their functions, one would not have a clear, sharp-cut notion that the interossei flex the first phalanges and extend the last two (as was shown long before Duchenne by John Hunter in 1777), and that the extensor communis extended chiefly the first phalanges and only partially the second and third. Indeed it is stated that the extensor "extends the fingers, notably the third phalanges on the second, and aids in the lateral motions of the fingers," which are clearly errors, as any one may prove by faradizing the muscles.

We point out the errors and omissions so that they may be amended in a second edition, and not in any

sense in depreciatory criticism, for the work is a most valuable addition to our literature; creditable alike to its author and his subject. It cannot fail to be of service to every reader.

SOCIETY PROCEEDINGS.

COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Stated Meeting March 7, 1883.

EDWARD HARTSORNE, M.D., IN THE CHAIR.

DR. WALTER F. ATLEE read the following

HISTORY OF A CASE OF ABDOMINAL CYSTIC TUMOR, WHERE SEVEN YEARS AFTER REMOVAL OF THE TUMOR BY LAPAROTOMY A SECOND OPERATION WAS DEMANDED: TAPPING THROUGH THE VAGINA RESORTED TO, WITH CONSEQUENT DEATH OF THE PATIENT.

In June, 1875, I removed, by laparotomy, in the St. Luke Hospital, Bethlehem, a multilocular cyst from Mrs. DeM. The history of the case was given by Dr. Stout to the Board of Trustees, and published in their second Annual Report. The whole mass removed at the operation weighed seventy-eight and a half pounds. The lobes and lobules composing it were made up of cysts containing fluids of different densities, colors, and other physical properties. The pedicle appeared to arise from the rectum, at all events, the cyst-wall was separated from everything else, except the front of that intestine, and the only ligature used was there applied. The whole vascular supply was derived from meso-rectal vessels. Of course, the clamp could not be used. As always, in sewing up the incision in the abdominal walls, I carefully included the peritoneum in the sutures, as in this way adhesions of intestine and omentum, with the consequent discomfort and constipation suffered by the patient, are never observed, and, moreover, in case a second ovariotomy should have to be performed, the operation could be performed with much more ease and safety.

This patient recovered from the operation, though somewhat slowly, owing to delay and difficulty in removing the ligature, which was left hanging out of the external wound, and not cut short and left inside the abdomen, as is now generally practised. She remained in perfect health for seven years, but in the summer of 1882 came to my office complaining of considerable discomfort in the pelvis, where I detected by the touch, the presence of a swelling, caused by a thick, viscid fluid; in other words, there was plainly a second tumor formed there. This continued to enlarge, and in the month of January, the suffering it occasioned was so immediately threatening to the patient's life, that it was necessary to act. Great efforts were made to push the tumor out of the pelvis, but this was not to be accomplished. It remained to operate as before, and remove the mass by laparotomy, or to give relief by emptying the cyst by tapping through the vagina. The latter procedure was preferred, and about three pints of a very thick, dark-colored fluid were drawn off by a Thompson trocar. There was no difficulty about the operation, nor was it attended by any particular pain, nor was there any hemorrhage. The next day the patient felt herself completely relieved, but after that her pulse became quickened, and a general febrile condition, unpreceded by chill, succeeded. There was evident tenderness on pressure over the lower part of the abdomen, but no severe pain independent of this pressure. The stomach became so irritable as to reject everything swallowed. Death took place on the eighth day, under the marked symptoms of depression which accompany pyæmia. It was a death, most plainly, from cyst inflammation.

Notwithstanding the great number of cases of operation for ovarian disease reported nowadays in journals, more or less medical, this case is really one deserving of record, and one of true and special interest to the pathologist and to the surgeon.

In removing the large mass in the first operation, in this case, it was noticed that no pedicle was found. It was separable by the fingers everywhere except from the front of the rectum, where it was necessary to apply a ligature and divide the attachment by scissors. The ovaries, as we all know, are situated in the posterior fold of the broad ligaments, on the sides of the highest part of the uterus, behind the Fallopian tubes and the round ligaments, which separate them from the bladder, and in front of the rectum, from which they are commonly separated by the lowest circumvolutions of the ileum. By a rounded cord, the ligament of the ovary, they are attached internally to the womb, and externally by two folds of the peritoneum to the sides of the pelvis.

As the ovary, in its normal condition, is not pediculated, at first, of course, a diseased ovary has no true pedicle. As it becomes larger, this pedicle is formed from changes in its normal connections with the adjacent womb; it consists of the Fallopian tube often much elongated, the broad ligament often considerably thickened, the utero-ovarian ligament occasionally hypertrophied to a large fibroid stem, the round ligament, and enlarged bloodvessels. If the tumor rises out of the pelvis the pedicle will be longer, and if bound down in the pelvis from early adhesions it will be shorter.

In some cases, however, and they are by no means rare ones, when cystic tumors are removed from the abdominal cavity, no such pedicle as the one just described is met with. In the case, whose history I have been relating, it was said that there was no distinct pedicle, and that the whole vascular supply came from the vessels of the meso-rectum. It may naturally be supposed that this was owing to the way in which the diseased mass may have been separated from its surroundings, and I therefore call attention to the fact that the same thing has occurred in the practice of an operator such as Spencer Wells. In his *Diseases of the Ovaries*, in relating Case CX., he says that he found no pedicle, and that the tumor derived its vascular supply from the omental and mesenteric vessels.

It seems to me most reasonable to look upon some of the abdominal tumors having these connections, not as enlarged and diseased ovaries, but as changed ovules, which have failed to enter the Fallopian tubes, have slipped in the interstices of the neighboring organs, become attached, received blood, and grown. In women, when the Fallopian tube has become adherent, in place of floating loosely, the ovule is not grasped as it leaves the ovary, and then it is not rare to see ten, fifteen, twenty, or even more small cysts, some as large as a pea, on the parts immediately in contact with the ovary. (See Sappey, vol. iii., p. 664.)

If one of these misplaced ovules was attached to a spot where plenty of blood was supplied, a large cyst could be formed, having no distinct pedicle, as in the case before us. As is seen in cases of extra-uterine fœtation, a well-made child can be formed in this way from a fecundated ovule, and we may suppose that from an unfecundated one a monstrous polycystic growth should form.

Although out of the way, I wish to mention here that the only two cases in which I have been consulted on account of a return of abdominal cystic tumors, were where there was no pedicle, and where the chief vascular supply came from the vessels in

front of the rectum. One case is the one now under consideration, and the other is the one published in the *American Journal of the Medical Sciences* for January, 1883, on account of the bladder having been opened during the operation.

My reason for reporting this case, however, is not to advance any particular views in regard to the pathology of certain polycystic tumors of the abdominal cavity, but in order to speak of the mistake made in the treatment. In the words of one who has done as much as any other to advance our knowledge of the treatment of abdominal tumors, "Mistakes teach most valuable lessons, and, when discovered, are not likely to be repeated. Hence, in medicine, they should be recorded for the benefit of science and of humanity." (*General and Differential Diagnosis of Ovarian Tumors*, by Washington L. Atlee, in preface.) When this case presented itself, it was necessary to act; a speedy and most painful death was inevitable unless relief were afforded. It remained to choose between the removal of the cyst and the emptying of its contents by tapping through the vagina, the only way practicable of introducing a trocar. On account of the operation previously performed, and the impossibility of moving the mass in the pelvis, its removal was not attempted. A previous operation is not necessarily an objection; Dr. Washington L. Atlee records two cases where a second operation was performed, and in both successfully. Spencer Wells, in his table, gives thirteen cases in which he removed an abdominal tumor from a patient who had previously undergone the operation, and eleven of them were successful. Here, however, the immovability of the tumor was such as to make me positively sure that the attachments were so great as to render its removal impossible.

Of tapping through the vagina I had no personal experience whatever, and what is recorded by others, although not, as a general rule, favorable to the plan, did not deter me from it. Scanzoni goes so far as to say that if puncture by the vagina was always possible, abdominal puncture would soon completely disappear from surgical practice. The sac, opened in its lowest part, can empty itself more completely. (Scanzoni, *Traité pratique des Maladies des Organes sexuels de la Femme*, Paris, 1858.) Peaslee says that there are three considerations to deter us from it in all ordinary circumstances: 1st. The vessels are larger and more numerous at the lowest part of the tumor. 2d. If polycystic, the largest cysts are not at its lowest part; and 3d. There is greater risk of wounding other organs. (Peaslee, *Ovarian Tumors, their Pathology, Diagnosis, and Treatment, especially by Ovariotomy*, 1872.)

Emmet writes that he has punctured several cysts with a trocar from the vagina, and in every instance more or less cellulitis has resulted. This might, however, destroy the cysts, but he is not able to determine that, for all the cases passed from under his observation. (Emmet, *Principles and Practice of Gynæcology*, 1880.)

Thomas says that by this method two of the dangers of tapping, secondary escape of fluid into the peritoneum, and consequent peritonitis, are unquestionably avoided, but others are as surely increased, namely, those of injury to portions of the intestine and entrance of air into the sac, with consequent decomposition of the contents, septicæmia, and inflammation of the sac walls. His experience with the method is not large, but it leads him to agree with Spencer Wells. (Thomas, *Diseases of Women*, 1872.)

Spencer Wells says that tapping through the vagina is more liable to be followed by inflammation of the cyst than tapping through the abdominal wall, because it is not easy to prevent the entrance of air. The operation of tapping through the vagina is selected, not so much with the intention of simply emptying the cyst, as for the chance that should the fluid escape by the opening, as fast as it is secreted, the cyst may gradually contract, and the puncture close. This favorable result, however, is seldom secured. As a rule, air enters the cyst, the opening fills up, the fluid remaining in the cyst, or that newly secreted putrefies. Suppurative inflammation of the lining membrane of the cyst comes on, and is accompanied by a low form of septic fever or pyæmia, which can only be relieved by making and maintaining a free outlet for the discharge. The frequency of these consequences should make tapping by the vagina an exceptional practice, but it may be adopted in cases where an ovarian cyst is bound down in the pelvis by adhesions, and it is necessary to relieve the distress caused by pressure on the bladder and rectum.

The canula or an elastic catheter may be left in the cyst, though it is safer practice either to introduce a wire seton or a drainage-tube, so as to prevent the opening from closing, and make sure of the free and immediate escape of any fluid that may be secreted. Even with every care, however, Mr. Wells concludes, from his experience, that patients are so apt to suffer from some of the ill-effects of long-continued suppurative processes, that it is better, even at considerable risk, to remove a cyst, if at all possible, than to trust to any mode of drainage. (Spencer Wells, *On Ovarian and Uterine Tumors, their Diagnosis and Treatment*, 1882.)

Dr. Charles West, whose opinions have for me, at least, extraordinary importance, greater indeed on such a point than those of any other man, says that there is no doubt that inflammation attacking parts within the pelvic cavity is less apt to extend to the peritoneum than when it attacks an abdominal organ; of which rule pelvic cellulitis and inflammation of parts within the folds of the broad ligaments are apt illustrations. It is equally incontestable that pelvic peritonitis is less apt to become generalized than is similar mischief originating in the abdomen. Cyst inflammation is so dangerous, however, that it is doubtful if vaginal tapping may be employed, even when the cyst is simple. Its dangers are incalculable. The dangers of ovariotomy are far less. Except when a cyst is impacted in the pelvic cavity, he does not recommend tapping per vaginam. (West, *Lectures on Diseases of Women*, 1879.)

Our best authorities, therefore, teach us that the taping of polycystic tumors, at least, must be avoided; that the removal of the cyst is to be practised in preference; that when impacted in the pelvis, so that it interferes with the performance of functions absolutely necessary to life, tapping, to which we must have recourse, is particularly dangerous, owing to the frequency of cystic inflammation, and consequent death from septicæmia. In my case I thought to avoid this by taking precautions to hinder the entrance of air into the cyst, but it took place notwithstanding, and the death of the patient was occasioned by it in eight days.

If, unhappily, I should ever again be called upon to try to relieve a similar case, I should act differently, and, not relying upon any means to prevent the setting up of cystic inflammation, do more to establish a free outlet for the noxious products by which the system is poisoned, and do everything in my power to prevent their formation, by topical applications to the secreting surfaces of the cyst.

Dr. Noeggerath (*Ovariocentesis Vaginalis, American Journal of Obstetrics*, May, 1869), by pursuing this course, had such good results as to declare himself confident that, where a simple or compound cyst could be attacked through the posterior vaginal cul-de-sac,

this operation would take the place of laparotomy. The plan he prefers is to make first a transverse incision, about an inch long, behind the cervix uteri and through the roof of the vagina up to the cyst. This, coming into view, is then evacuated by a free incision, and, finally, the edges of the two incisions are stitched together by five or six silver sutures. The cyst thus left free and permanently open is daily washed out with antiseptic injections until it finally contracts, and ceases to afford any secretion. Although, at the present time, it is not likely that in ordinary cases any one would choose to perform this operation to that of the removal of the cyst, yet all experience shows that when the cyst is so firmly fixed in the pelvis as not to be removable, it diminishes in a marked degree the great danger necessarily incurred by tapping through the vagina—that of poisoning of the system by the absorption of the putrid products of cystic inflammation.

I feel certain myself that I made a sad mistake in not operating in this way, and report this case, as a warning to others—*Bene faeit qui ex erroribus aliorum, sibi exemplum sumat.*

DR. WILLIAM GOODELL said that he did not think the attachment of the tumor to the rectum was so unique as the return of the tumor. He had on several occasions removed tumors without being able to find the true pedicle, on account of the many adhesions. He could not agree with Dr. Atlee with regard to the origin of the cyst—he did not think it could have come from a wandering ovum, since, in that case, it would have been monocystic.

He regarded tapping per vaginam hazardous, for the reasons given by the late Dr. Peaslee, first, on account of the danger of wounding bloodvessels, and second, on account of the danger arising from the entrance of air into the cyst. He did not understand why the air could enter the cyst so readily after tapping per vaginam. When he performed tapping by this method he employed the aspirator. Returning to the question of the attachment apparently of the pedicle to the rectum, in the case reported, he said that it was quite common not to find a pedicle in some forms of intra-ligamentous cyst, because they had to be enucleated, and referred to the statements of Lawson Tait with regard to this difficulty of determining the origin of the tumor. He desired to call attention to the pathological characters of the recurrent growths, and stated that according to his observation they were always malignant, and that they recur in the stump of the pedicle, or, as he had seen, at the site of the adhesions. He alluded to a case which occurred in his own practice, and to one related to him by Dr. Bantock, of London, which confirmed the statements made.

He asked Dr. Atlee whether he could explain why the air entered so readily into cysts after tapping per vaginam.

DR. ATLEE in reply said that he had seen no reason given, but thought it was owing to the difficulty in closing the wound made in the tapping.

DR. R. P. HARRIS remarked, that perhaps he could throw some light upon the cause of this admission of air, from what he had observed in a case of removal of hemorrhoids. Some years ago, soon after the introduction of the écraseur of Chassaignac, he called in the late Dr. Joseph Pancoast, who had obtained the instrument, to make use of it in removing a mass of hemorrhoids from the rectum of a very anæmic man, rendered such by repeated hemorrhages after defecation. After the operation, to prevent, as he stated, the suction power of the diaphragm upon the rectum, endangering secondary hemorrhage, Dr. Pancoast introduced into the anus a small box-wood tube. The effect of this was soon demonstrated: a large drop of serous fluid descended the tube and stopped at its exit; when the diaphragm arose in expiration, the drop was drawn up the tube, and when it descended in inspiration, it came down again; thus showing the pumping effect of the diaphragm upon the pelvic contents. Let this open tube become an opened cyst with flaccid walls, and we have air pumped into the cyst, as it was into the rectum of our patient.

DR. J. EWING MEARS asked Dr. Atlee whether a post-mortem examination had been made. He thought the observations of Dr. Goodell with regard to the difficulty of finding the true pedicle in cysts with many adhesions, and to the pathological characters of the recurring tumor in these cases to be correct, as such had been his experience in instances of which he had had personal knowledge. With regard to the entrance of air into the cyst, when tapping is performed per vaginam, he thought the explanations of Drs. Atlee and Harris were correct. A cyst firmly impacted in the pelvis is separated from the vaginal tube by a comparatively thin septum, differing greatly in its anatomical characters from the abdominal wall. The opening made by the trocar in this septum and in the cyst wall attached to it by adhesions, does not close perfectly, and the air drawn up into the vaginal tube passes readily into the collapsed cyst.

DR. ATLEE, in reply to Dr. Mears, stated that no post-mortem examination had been made.

CINCINNATI ACADEMY OF MEDICINE.

Stated Meeting, February 15, 1883.

THE PRESIDENT, J. S. CLEVELAND, M.D., IN THE CHAIR.

DR. GEO. E. WALTON, having recently returned from an extensive tour in and about Florida, read a paper on

THE THERAPEUTIC VALUE OF THE CLIMATE OF FLORIDA.

DR. WHITTAKER observed that the opinions of the essayist were certainly entitled to great credit, because he had made something of a specialty of balneology and climatology, and had based his statements upon personal observations. He believed, however, that all our knowledge of climatology stands in need of revision, to make it correspond with the recent disclosures concerning the etiology, or pathology, of infectious diseases, which are the affections to which we chiefly have reference when we speak of the influence of climate; for up to the present time climatology has been construed chiefly to refer to miasmatic influences, as determined by heat, moisture, and vegetable decomposition, together with some definite knowledge concerning atmospheric vicissitudes, and some vague allusions to electric conditions; and all these facts were considered rather in the light of producing and engendering the poisons of disease. But the present tendency of etiology is not to admit the possibility of producing infectious diseases by any such causes, but to maintain for each an exclusively parental birth; so that the factors which go to make up a climate should be studied from the standpoint of disseminating rather than developing a disease; just as we would say that a high wind would spread, but could not produce, a fire.

We do certainly recognize every day the interdependence of disease and climate. Thus the tropics have been, from time immemorial, hot-beds of cholera, dysentery, and yellow fever; while the temperate regions are the home of malaria, rheumatism, bronchitis, etc. The arctic zone enjoys comparative immunity from infections, and in the extreme regions of the north the process of "taking cold" is almost unknown, and would be so entirely, perhaps, if its inhabitants could

entirely dispense with indoor life. Surgeons tell us that wounds heal much more kindly and quickly in the arctic regions, or what is the same thing, at high altitudes elsewhere, than in the temperate or torrid zones, or in the lowlands. Moreover, we may actually draw a line beyond which some diseases do not pass at all. We know the limits of yellow fever and malaria, and beyond the fortieth degree of latitude, it is said, that though sporadic cases may occur, dysentery almost never becomes epidemic.

We know pretty well as the sum and substance of the study of many centuries, what are the conditions that favor the spread of disease, but what we want to know now, is the nature or cause of the disease itself. We are a good deal like a farmer who understands pretty well the condition of his soil, but is ignorant of the character of his seed.

Now, however, that we are being furnished with definite information regarding the germs of disease, we can begin to see definitely how they are affected by climates. Recent researches in physics have revealed the fact that the air everywhere is full of germs, and we make unconscious studies of them every time a ray of sunlight enters a darkened room. We live at the bottom of a vast aerial sea, thickly peopled with dead and living things. Mr. Tyndall has shown us that the color of the sky is due to these atmospheric particles, and that the sky is literally the dust of the earth. All these particles, animate and inanimate, being material things, must obey the law of gravity, of course, and sink or float according to their weight. Like the stars, which are the motes of the universe, they circulate at different distances; but unlike them, they are more liable to be disturbed and carried away. Most germs are so heavy that they float near the earth, and would come to rest upon its surface if it were not for the wind which may waft them to great distances, and which, even when apparently still, moves at the rate of twenty inches per minute. The rain beats them down upon the surface of the earth, where they adhere for a time, and a strong wind blows them away, and so clears the air, as we feel and say, especially after a storm. But falling upon the earth, they adhere to its surface until again dried and dissipated by the sun and wind. Mr. Tyndall has shown us that the dust which falls in closed rooms is chiefly that which is deposited from the air in the room, and by coating the inside of a hermetically sealed box with glycerine to get a sticky surface, the beam of an electric light transmitted through its glass windows, visible before, becomes optically free from particles, and hence invisible in the course of a few days. Invisible, that is, it is dark like the regions of interstellar space. Of course, the bulk of the dust of the air is not made up of the germs of disease. Coal dust, mineral dust of various kinds, fragments of cotton and wool, pollen of plants, scales from the whole insect world compose a part of it; but the bulk of it is made up of germs infinitely minute, and infinitely more numerous than these particles. The common bacteria of putrefaction enter largely into its composition, as we soon find when we leave exposed to the air any organic matter. These germs seem to circulate in clouds, or we might say flocks, as we observe when a number of test-tubes containing organic matter is exposed to the air, that they are not all affected at the same time, or alike. When disease appears in a country, or a part of a country, we see the same thing in its attack of certain regions or individuals, and escape of others.

Heat favors the development of germs of all kinds, because all living things require a certain amount of it as an indispensible necessity of life. But different germs thrive under different degrees of heat. Thus the germs of milzbrand grow best in the cold climate of Siberia, while the parasites of tuberculosis require a body heat to develop and reproduce themselves.

Desiccation prevents or retards the growth of germs, and it makes a good deal of difference whether we inhale or ingest germs in a moist or dry state. Probably the exceptionally long stage of incubation we sometimes notice depends upon the relative dryness or humidity of the germs, and probably the immunity from disease of certain regions may be explained by the great dryness of the air. The weight of the air acts in the same way. A wet air is always heavy, and holds germs down near the ground, while a dry air permits them to float up above our heads. The health of altitudes is best explained in this way.

The germs of hay fever are very light; they float at great altitudes to great distances, but they permeate the whole air at times, and are often beaten down upon our streets by a heavy rain in a so-called "shower of sulphur." Numerous observers have now shown us how the prevalence and severity of hay fever stands in exact relation to the number of pollen grains that may be gathered upon a square inch of a gelatine-coated glass slide held in the air.

That heavy particles may be carried great distances by the wind is shown by the statement of Mr. Darwin, who remarks in his *Voyage in the Beagle*, that ships at sea have often been compelled to put about at distances of one thousand to sixteen hundred miles from shore by darkening clouds of dust which, on examination under the microscope, are found to consist of particles of sand or silicious matter.

Vegetable decomposition favors the development of germs of all kinds, perhaps by feeding them. Swamps and jungles have always been hot-beds of disease.

Florida, like all other tropical climates, offers thus all the factors for the spread of germs, and if Florida has hitherto had immunity from tuberculosis, it is because the disease has been only comparatively lately carried there. The soil has been fallow, but the seed has not been sown. Now that it is carried there, under the mistaken idea of curative resort, we will probably soon have mortality statistics equal to any of the States. Of course, the manufacturing towns will always excel Florida in this respect, because the bacillus tuberculosis is strictly a parasitic disease, and never develops spores outside the body. Hence, the accumulation of individuals in shut-up chambers or shops, as in factories, heated at that, offers the very best conditions for the spread of the disease. The relief which some patients do get in Florida during favorable seasons is due to the fact that they spend most of the time out-doors. The far greater immunity of Nassau, which, in the speaker's opinion, is the best place of resort on this hemisphere, is probably due to the constantly ascending column of heated air from its surface; sea-air is always healthy anyhow, because it is so little infected with germs, and many persons are cured or relieved of consumption at sea, provided they remain on deck. Under these conditions, as at Colorado, patients are protected against reinfection, or auto-infection, which is constantly taking place at home. For the actual number of germs in the body has much to do with the localization or generalization of the process. This fact has been abundantly proved by injections into the eye. A small number of bacilli injected into the aqueous humor produces a local tuberculosis, which only slowly and after a very long time becomes general, while a large number injected produces general tuberculosis in a few weeks.

The speaker had long ago found, as the result of his clinical experience, that Florida was the worst kind of a place for tuberculous patients, and he believed that the recent disclosures concerning the nature of the disease gave us a scientific reason for it.

As to other diseases, those which require an equable warm climate, like chronic or senile bronchitis, bronchiectasis, emphysema, etc.; those which call for appeal to the skin, like Bright's disease; those which call for relaxation and rest, like nervous diseases—Florida is the climate above all others. Jaded business men and overworked and worried professional men get the greatest relief in Florida, which is a typical "land of the lotus eaters."

DR. P. S. CONNER said that he was glad that the essayist sounded a note of alarm for tuberculosis in Florida. Before the war it was said to be the graveyard of consumptives. A great mistake is made in sending patients too far north in this State, where malaria is prevalent and where the temperature, though not frosty, is subject to too many changes. The southern coast is far more favorable; the air is more pleasant and vegetation is not near so rank and abundant as in the northern portion. For consumptives the southern part of Texas, New Mexico, and old Mexico are better suited than Florida. If the speaker were subject to phthisis, he would go south somewhere where there is little vegetation, as below the Keys of Florida, but he would spend most of his time on ship away from the land in the southern waters. He agreed with the previous speaker that Nassau and the other islands were preferable to the mainland of Florida. It is a question if it will ever be possible to establish sanataria in Florida. The climate of this State has been overrated. The trouble is, that by making it a place of resort for the sick it has become the place for hotel-keepers, doctors, and others who expect to live on the patients, and who trumpet forth this climate for the purpose of attracting as many patients as possible. In the speaker's opinion, Georgia and the southwestern coast was much better for consumptives than the southeastern coast of the United States. As regards winter climes, the speaker thought it very questionable if it would be proper to send all consumptives north. Minnesota may be very good for some persons but very bad for others. The same may be said of the other western health resorts.

DR. REAMY also congratulated the essayist on the pleasing and practical manner of dealing with his subject, a matter to which medical writers paid too little attention, generally.

He agreed to what had been said about the value of the climate of Florida for consumption, and, as far as his experience went, also confirmed what was said about the preference of Nassau and the Bahama Islands. A friend of his, Dr. Jackson, who was subject to phthisis, when so feeble that he could scarcely walk about, improved steadily as long as he remained in Nassau, but lost all his strength when he went to Gainesville, in Florida, whence he came home to die.

The speaker said he must, however, note one inconsistency in the remarks made by Dr. Whittaker. If an emigration of consumptives to Florida would make it a great centre for the spread of this disease, it is singular that in Nassau not a single native ever had phthisis. If the disease were so dangerous, in an island as small as Nassau all the inhabitants would soon have contracted it. If the conditions here are not so favorable for the development of bacteria, they are not such as to entirely kill them.

DR. WALTON said he was glad to find that all of the speakers agreed with him as regards the value of the Florida climate. He thinks in the future there may some place be found in Colorado or Arizona, sheltered on the northward by mountain ranges, which is dry, mild, and equable in climate, and specially fitted for consumptives; but as yet the necessary facts have not been obtained for selecting such health stations.

It is possible that tuberculosis depends on a bacillus, but we can hardly yet say whether this germ has actually been discovered. We are not yet in a position to say that taking cold has no causative relation to consumption; if none other, it may be that the depression of the system caused thereby, and the congested condition of the minute bronchial tubes, supply a favorable soil for the germination of bacilli. If catching a cold has nothing to do with the development of phthisis, it is difficult to understand why we see so much less of the disease in the warm air of a tropical climate. Statistics show that consumption is less frequent in the southern than in the northern States.

As regards Nassau, the speaker knew nothing more than that the mean average temperature is much higher than in Florida. Possibly the climate is drier from the evaporation caused by the heat of the sun, thus carrying rapidly upward all moisture from the surrounding ocean. If desiccated air prevents the development of bacteria, that may be the cause of the great improvement in phthisical patients.

One other factor in climate is perhaps of great importance, though it has as yet not been properly investigated, and that is the electrical condition of the air. It is well known that the upper region of the air is positive and the lower negative; that consequently we move continually in a negative plane of electricity. An instrument to record these electrical conditions would be a great desideratum in the United States Signal Service, if it were not too expensive. Such an instrument, but a very expensive one, has been used at Glasgow and London. It has been found that there are wide fluctuations in electrical potential, both positive and negative. It may be, therefore, that in Florida the mean electrical potential is low, thereby causing the relaxing influence of that climate. In order to accurately fix the climate of any place, several factors, as the humidity, ozone, and electrical potential, as well as temperature and rain-fall, must first be investigated, and all of these data have not as yet been secured for a single station in this country.

CORRESPONDENCE.

ON THE RESPONSIBILITY OF PHYSICIANS EMPLOYED BY MANUFACTURING PHARMACISTS.

To the Editor of THE MEDICAL NEWS.

SIR: It is the habit of trade rivals to seek the injury of their competitors by saying with regard to experts in their employ that they are "owned" by the house employing them, and that any opinion uttered by them is but the word put in their mouth by the house for the purpose of selling goods. This is a very serious charge, and for the sake of honest expert work it should be met in every case by emphatic denial on the one side, and the most careful investigation on the other. Every expert should repudiate the charge of disloyalty and defend his integrity, and he should be defended as well by those who employ him. But if a charge is preferred of this nature the profession should investigate it, and expel the guilty parties from their ranks. Because of the great importance of this subject at this time, I am led to make the following remarks:

The moment a man enters a profession he is accountable to it, and he cannot escape his responsibility. From henceforth he is bound to protect professional and scientific interests. It is not the question of how well he serves the commercial interests of the house employing him, but how well he serves the profession that praises or condemns him. A loyal service to professional and scientific interest is met by reward, and

disloyalty merits the punishment of a traitor. If the commercial interests of the house employing him are benefited by the publication of his work as a scientific man on the drugs or preparations handled by them, then is his employment of advantage in a monetary sense. If, on the contrary, the publication of facts injures sales, then is his work of no avail to them. But in either case he is in duty bound to publish facts only, and it is a question whether he is not responsible if he withhold facts that he may discover, even if their publication is not advantageous to demand, for when he places himself before the profession as a scientific man, he is bound thereby to tell all he knows when his professional opinion is asked for, otherwise his opinion cannot be regarded as an honest one. Opinions cannot be expressed nor articles written merely for the purpose of selling goods. To be scientific, they must contain the truth, the whole truth, and nothing but the truth, to the extent that truth may be obtained. A physician in the employ of a commercial house, therefore, is held accountable that his opinions and writings shall represent his honest conviction from a scientific point of view, and his views have weight with the profession only to the extent that they believe in his competency and integrity. He is, therefore, placed in the position of an expert, and held personally accountable for what he says. If, for example, an article is requested from his pen with regard to the therapeutics of a new drug or preparation of the same, it is equivalent to a demand upon him for his opinion as an expert, and must be so regarded, and, in the delicate relation which he occupies to professional and commercial interests, he should be specially guarded as to his utterances.

A false assay of ore on the part of a chemist in the employ of a mining company, published by them for the purpose of foisting their stock on the market, would be met by public condemnation. It is apparent, therefore, that in a case of this kind the reputation of the mining company is dependent upon the reputation for integrity of the expert in their employ. In a similar manner, every physician in the employ of a commercial manufacturing pharmaceutical house should be held responsible; then his competency and integrity will guarantee the honesty of the house employing him, and his name, in connection with the house, always be an honor to both parties concerned. But if it be proved that a physician in the employ of such a house is merely a tool in their hands for trade purposes, without regard to professional and scientific interests, and that his opinions are biased by his relations with the sale of the drug or its preparation, then is he a disgrace to the profession to which he pretends to belong; and if a house should seek to blind the profession by using such a pretender as a catspaw to rake their chestnuts from the fire, they, too, would merit the disdain of all honest men.

Very respectfully yours,

F. E. STEWART, M.D., Ph.G.

PHILADELPHIA, March 12, 1883.

BROMIDE OF ETHYL AS AN ANÆSTHETIC.

To the Editor of THE MEDICAL NEWS.

SIR: There seems to be a disposition in some quarters to return to the use of bromide of ethyl for anæsthetic purposes, and it is urged in its favor, that it is admirable for brief operations on account of the rapidity of its action. In view of these facts, I beg to call attention to some experimental trials of this article by self-inhalation, the results of which were published in the *Cincinnati Clinic and Lancet*, April 10, 1880, page 327. By three different trials I fully learned the rapidity of its action, and the very brief period required for all its effects to pass off. There was, however, one other very important effect. In each instance the pulse showed a very great and rapid increase of rate. The figures were—from 80, before inhalation, to 100; from 80 to 120; from 78 to 120—as observed by medical friends who were present. This great change took place *within the first minute or first minute and a half of inhalation!*

Now the object of this note is to call the attention of gentlemen who are using bromide of ethyl as an anæsthetic to this point, that it may be ascertained whether this effect is general or only exceptional. It is to be hoped that some observations will soon be published. If the effect is general, then it would seem impossible, from a theoretical point of view, that an anæsthetic causing such great and sudden changes in the heart's action can be safe. Yours, etc.,

J. C. REEVE.

DAYTON, OHIO.

NEWS ITEMS.

NEW ORLEANS.

(*From our Special Correspondent.*)

THE DEATH FROM CHLORAL HYDRATE in the Charity Hospital, referred to in THE MEDICAL NEWS, of Feb. 3, 1883, occurred in one of the late Prof. Hawthorne's wards, some ten years ago. The case was mentioned merely as a point of information, and not in criticism of any former, or the present, management of the hospital. It is scarcely within the reach of human perfection to conduct a hospital with eight hundred beds, in such a manner that some accident or mishap, involving a human life, shall not occasionally occur.

THE STATE MEDICAL ASSOCIATION OF LOUISIANA will hold its next session at Shreveport, beginning on April 4th. The obstructions to a successful organization of a State Medical Society in this State will in a short time be quite nearly removed. Formerly the meetings have been held in New Orleans, and a physician living in Philadelphia could attend them with less inconvenience, or sacrifice of time, than those living in some of the parishes of Louisiana. The roads completed and under construction will in a great degree obviate this difficulty. It is trusted this will afford an opportunity, which will be improved, to unify the medical profession of this State.

It is expected that the coming meeting will be largely attended by the country members of the profession. If this expectation is realized, it will prove to be a meeting of interest, since the rural moiety of Louisiana practitioners comprises much talent and cultivation.

It is not yet known what reports or papers are to be presented.

SMALLPOX still prevails in this city, the fatal cases last week numbering 40; 10 whites, 30 blacks. So far in this year the total record of deaths: whites 65, colored 122.

THE CARNIVAL (February 6th) attracted a large concourse of people to this city. We rightfully accuse the Mohammedan and the Hindoostanee pilgrimages and festivals, of carrying cholera through large portions of the Eastern World; and also of planting the infection on lines of travel which introduce it into Europe and thence to America. Is it not time that intelligent and conscientious sanitarians shall demand that some precautionary measures be exercised in this country touching popular convocations in times of danger from portable diseases? It would not be an immodest demand, which insisted that every person who choose to

attend a popular assemblage in a town where smallpox was known to be prevailing, should be required to give proofs of protection before entering the town. It would be still more important to require him to give satisfactory evidence on leaving the infected town, that he was not to prove a carrier of fomites to some uninfected and unguarded population.

DETROIT.

(From our Special Correspondent.)

THE ANNUAL MEDICAL COMMENCEMENTS AT DETROIT.—The oldest, *The Detroit Medical School*, held its closing exercises on the evening of February 28th. It gave diplomas to its entire Senior Class, thirteen in number. Dr. H. O. Walker delivered the valedictory address, and Prof. Chas. A. Kent discussed the question, "How Shall We Protect Society from Medical Imposition."

The Michigan College of Medicine held its closing exercises on the evening of March 5th. It gave the degree of M.D. to twenty-eight of its Senior Class. One, we understand, failed to get the prize. The public address was given by Rev. E. P. Rexford, and the valedictory by Dr. J. B. Book.

After its public exercises each college invited its graduates to a banquet at the same hall, where they were presented to a large number of the medical profession of Detroit and adjoining towns. Excellent music and a profusion of flowers rendered the stage and the general exercises very attractive to the large audience attending each commencement.

The terms just closed have been in both schools more than usually prosperous. Yet there have existed constant rumors of negotiations looking towards a consolidation of the two schools. It is to be supposed that the object of those seeking this union has been to make one still more vigorous institution, that should be more profitable to its stockholders.

The spring terms of the colleges will go on as usual, great effort having been made to render them worthy of the attention of students.

The Commencement of the Medical Department of Michigan University is not held till June.

IMPORTATION OF SMALLPOX FROM RIO JANEIRO.—On February 28th the emigrant inspector at the New York quarantine discovered a case of smallpox among the crew of the S. S. Ptolemy, just arrived from Rio, whence she had sailed on January 24th. At the time of her departure from that port the disease was causing from twenty to thirty deaths weekly. The surgeon of the vessel gave the assurance that the case had been isolated from the beginning, but another of the crew was found suffering from symptoms which were regarded as suspicious. This man was removed to the quarantine of observation, where on the second day the eruption was developed, and he was sent to the hospital at Blackwell's Island. Some time before the arrival of the vessel two seamen were taken sick, but not with smallpox. The surgeon, however, with mistaken zeal, put them into the same room with the case first developed. On the third of March the disease appeared in these men also. The clothing of the men who were in the ship's hospital was disinfected, and their mattresses burned. The remainder of the crew were vaccinated.

SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.—The fifth annual meeting of the Sanitary Council of the Mississippi Valley will be held at Jackson, Miss., beginning on Tuesday, April 3d, proximo. In view of recent action—legislative and judicial—affecting the sanitary interests of territory not embraced in the Council, in common with the Valley proper, invitations are extended to prominent sanitarians and health officials in the South Atlantic and Gulf States. It is hoped that such invitations will be generally accepted.

DEATH FROM CHLOROFORM.—A press dispatch from Norfolk, Va., states that a lady in that city on March 9th, died under extraordinary circumstances. She had been in the best of health, but suffered from an occasional attack of neuralgia, which was ascribed to an ulcerated tooth. Chloroform was administered after the usual custom, for the removal of the tooth, but after it had been successfully drawn the lady was found to be dead. The chloroform had been administered by her husband, who is a physician, and the usual precautions were taken.

MICHIGAN SANITARY CONVENTION.—A Sanitary Convention will be held at Reed City, Michigan, under the auspices of the State Board of Health, on April 26 and 27th. The objects of the convention are stated to be the presentation of facts, the comparison of views, and the discussion of methods relating to the prevention of sickness. Dr. E. S. Richardson, of Reed City, is Secretary of the Convention.

Among the subjects which it is expected will be presented and discussed are the following:

How Diseases are Contracted and Communicated.
The Contagiousness of Diphtheria.
Personal Liberties *vs.* Public Health Laws.
Coöperation of Citizens with Sanitarians a Necessity in Preventing the Spread of Disease.
Medical Humbuggeries.
The Ventilation of Ordinary Dwellings.
Food and its Adulterations.
The Disposal of Slop-water and Waste Matter in Villages.
Drainage and Sewerage.
The Water Supply of Reed City and the Dangers of its Contamination.

CORRUPT TRAFFIC IN DEAD BODIES.—In his message to the Legislature of Massachusetts, Governor Butler called attention to the management of the Tewkesbury Almshouse and severely censured the course alleged to have been pursued by Mr. Marsh. Mr. Marsh has been in the institution for twenty-five years. For the past five or six years infants have not been retained in the institution, but have been farmed out. While they were cared for in the institution, however, Governor Butler charged that from 150 to 250 infant corpses were annually sold as merchandise to a single medical institution in the State for from $3 to $5 each. It was also charged that the bodies of adult paupers were sold secretly and not in accordance with the law.

A representative of *The Journal* recently visited the almshouse to make an investigation and to see what defence Mr. Marsh would make against Governor Butler's charges. It appears that there are in the State four medical institutions authorized by law to receive subjects from the almshouse. During the past ten years the number of deaths was 2,766. Of this number only 585 of the pauper dead were delivered to those institutions. The superintendent has no record of what became of the other bodies. He says that they were buried in pauper graves. He admits that if he had sent all the subjects to the medical institutions he could not then have supplied the demand. In view of this, the question is naturally raised, Why did he bury them when science demanded them and the laws allowed them to be used for scientific purposes? The inference is that, as Governor Butler says, the super-

intendent has sold many of these bodies for his own benefit, inasmuch as no record of the sale or the burial is kept.

PROPOSED SEWERAGE OF CHARLESTON, S. C.—The Department of Health, of the city of Charleston, in its annual report for 1882, urges the importance of a system of sewerage. "When it is realized that we have over six thousand vaults in our midst, that there is annually expended for cleaning them a sum of money approximating in amount an annual interest on the $300,000 of capital necessary for complete sewerage; when we know that the ocean flows and ebbs in and around us twice every twenty-four hours, that we are not located on a small sluggish river, as some cities are, it is most extraordinary, with our mortuary statistics for constant admonition, that the citizens of a city so favorably located for complete cleanliness should remain longer inactive on such a subject." The mortuary statistics, referred to, are for the year: Total deaths, 1726; of whites 554, of colored 1172, equivalent to a rate of 33.01 per 1000 of the whole population, or of 22.32 for the whites and 42.91 for the colored.

THE MANUFACTURE OF SEGARS IN TENEMENT-HOUSES.—Governor Cleveland, of New York, last Monday signed the bill prohibiting the manufacture of segars in tenement-houses in New York City.

THE UNIVERSITY OF THE CITY OF NEW YORK held its forty-second annual commencement last Tuesday. The degree of M.D. was conferred on one hundred and sixty-four candidates. The Faculty prize of five hundred dollars, for the highest standing in the class, was awarded to Henry P. Loomis, a son of Prof. Alfred L. Loomis. The prize of three hundred dollars, for the best competitive examinations in the seven general departments was awarded to Le Roy W. Hubbard.

MIAMI MEDICAL COLLEGE COMMENCEMENT.—The commencement exercises of Miami Medical College took place at Cincinnaiti on March 1st, forty-one graduates receiving the degree of Doctor of Medicine. The valedictory address was delivered by Dr. Joseph Eichberg, Professor of Physiology.

COMMENCEMENT OF THE BUFFALO MEDICAL COLLEGE.—The commencement exercises of the Buffalo Medical College were held on February 27, 1883, the degree of M.D. being conferred on fifty-one candidates. Dr. M. D. Mann delivered the valedictory address.

THE PHILADELPHIA OPHTHALMIC AND AURAL BOOK CLUB has just been organized in this city, with the object of circulating among its members the literature of these specialties.

CONFISCATION OF AUSTRIAN MEDICAL JOURNALS.—In one week the *Wiener Medicinischen Blätter* was confiscated on account of its article on the Military Sanitary Service: the week before the *Medicinisch-Chirurgisches Central-Blatt* met with a like fate on account of an article on the civil appointment of physicians, and at the same time the *Pharmaceutische Post* was also suppressed for its criticism of a recent decree of the Austrian Minister of the Interior.

DURATION OF MEDICAL EDUCATION.—The number of years that a student has to spend at a medical institution prior to being admitted to examination for a medical degree, in various countries, is as follows: Sweden, ten; Norway, eight; Denmark, six and seven; Belgium, Holland, Italy, and Switzerland, six; Russia, Portugal, Austria, and Hungary, five; France, England, and Canada, four; United States, three or two; Spain, two.—*Lancet*, February 17, 1883.

DR. LEOPOLD, of Leipzig, has been appointed Extraordinary Professor of Gynecology in the University at that place.

STATUE OF BOUILLAUD.—A subscription has been started in France for the erection of a statue in memory of PROF. BOUILLAUD. Angoulême, the place of his birth, has been selected as the locality.

PROF. SANDERSON'S SUCCESSOR. — MR. ALBERT SCHAFER, F.R.S., Fullerian Professor of Physiology at the Royal Institution, has been appointed Jodrell Professor of Physiology at University College, in the vacancy occasioned by the resignation of Dr. J. Burdon Sanderson, LL.D., F.R.S., appointed Wayneflete Professor of Physiology in the University of Oxford.—*Lancet*, February 17, 1883.

CONSUMPTION IN RHODE ISLAND.—From the registration report just issued we learn that the number of deaths caused by consumption, in 1881, was 706. This is much the largest number ever reported in Rhode Island in any single year.

Although the number is considerably larger than in any previous year, the proportion to the whole number of deaths, from given causes, is less than in many previous years.

The average annual proportion during a period of twenty years, previous to 1880, was 16.84 per cent. The proportion in 1881 was 15.12 per cent.

The proportions were 30.2 descendents of American parentage, and 60.8 descendents of foreign, in each 100.

The proportion of foreign parentage is much larger than ever previously reported.

During the year 1881 the largest number of deaths from consumption, in any quarterly period, occurred in the third quarter. This circumstance is not in accordance with the rule of many years.

Contrary to rule, also, was the occurrence of the largest monthly number of deaths in August. Following August in the order of largest mortality were January, May, March, April, and July.

In 1881, 377, or more than 53 per cent. of the whole number of deaths from consumption, were of persons between twenty and forty years of age.

From the statistics the inference is unavoidable that consumption, as a cause of death in Rhode Island, has gradually diminished since 1865. The facts shown by the statistics reasonably warrant the following conclusions:

1. That consumption, in the total population of Rhode Island, has gradually lessened in frequency of occurrence, or that medical treatment has been more successful in its cure.

2. That the lessened frequency, or more successful treatment of consumption, has been confined almost exclusively to the population of American parentage.

3. That the proportion of mortality from consumption has always been larger in the population of foreign parentage.

4. That the mortality from consumption, in the class of foreign parentage, has not diminished in proportion to the population of the same parentage, during the last twelve years.

In the city of Providence the statistics show the following important facts:

1. In the population of American parentage in Providence there has been a very remarkable change in the mortality from consumption during the last twenty-five years. In 1856 there was, in this popula-

tion, one death from consumption in 268.2; in 1880 there was only one death in 435.2. This decrease has been continuous during the whole period.

2. In the population of foreign parentage, in Providence, the *rate of mortality* from consumption has changed only very slightly in the last twenty-five years. In 1856 the rate was one death in 262.6 of the population; in 1880 it was one in 268.0; and during this time it has been both slightly higher and lower than these rates. The rate of mortality from consumption, among the population of foreign parentage, in 1880, was almost precisely the same as the rate in the population of American parentage in 1856.

Consumption as a cause of death has, as far back in years as comparative registration of death reaches, shown a larger mortality in proportion to the population, in Massachusetts, than it has in Rhode Island.

The statistics show that the proportional mortality, from consumption, has also diminished very considerably in Massachusetts, since 1865.

SANITARY PRECAUTIONS AT MECCA.—In a letter to the Sanitary Administration of the Ottoman Empire M. O. Noury gives the details of the epidemic. Three hundred and twenty-four deaths occurred in the holy city.

The sanitary measures prescribed for the pilgrimage, and enforced during the past season, have been ss follows:

1. At Mina, the labor required at the slaughter houses and at the ditches, where the remains of the sacrifices were thrown, was performed by Takrouris, under the supervision of fifty infantry soldiers. Eleven carts were constantly employed in the removal of the remains to the ditches, so that cleanliness was secured in the valley.

2. At Mecca the houses were whitewashed and the closets disinfected with lime.

3. Cleanliness was strictly enforced, both in public places and in private houses.

4. The prompt depopulation of the town and the starting of two caravans earlier than usual were steps recommended and carried out.

5. The sanitary service were warned of cases of sickness whether among pilgrims or in the permanent population of Mecca.

6. Provisions and liquors were kept under inspection.

7. Public latrines were cleaned, and a certain quantity of lime thrown into them daily.

8. The reservoirs of Arafat were emptied, cleaned, and refilled two days before the arrival of the pilgrims.

9. The reservoirs were placed under military guard to prevent pilgrims from bathing or washing their linen therein.

10. The sacrifice of animals otherwise than in the authorized slaughter houses was forbidden.

11. It was the intention to place a military guard around the slaughter houses, that the flocks of sheep might be kept there. Sheep found in the tents were to be seized and placed within the military lines.

12. The importation into Mecca of meat from the sacrificed animals, whether in a fresh or dried state, was prohibited.

13. Lastly, the skins of these animals, after being well salted and dried, had to be sent directly to Jedda by the owner or other interested party.

M. Noury refers to the fact that the first cases in the last two epidemics occurred among soldiers, but considers that these were not really the first cases, although they were the first cases verified. He considers that cholera has its birthplace in Hindoostan, and that it is always imported into the Hedjar by pilgrims. He recommends that quarantine against the East be rigorously enforced, and proposes that pilgrim ships should be subjected to an examination in the port of Jeddah additional to that at Camaran. This final survey would check previous errors, and expose false declarations and intriguing on the part of ship captains and other interested parties.

The sanitary measures in the thirteen articles were carried out, with the exception of the military guard, which the government promised to station around the slaughter houses. The want of it produced much uncleanliness in their neighborhood; but the regular employment of the carts and the Takrouris in the removal of the offal of the sacrificed animals did not give time for its putrefaction, so that this year the valley of Mina was kept in a more cleanly condition than at any former period. On this account the disease was not developed in its usual formidable manner either at Mina or at Mecca. Of course this satisfactory result was partly brought about by the prompt evacuation of the town immediately after the fêtes.

The local authorities collected from the slaughter houses nine thousand and twenty-nine skins of sheep, goats, and camels, besides several thousands of skins of sheep slaughtered in the camps. The total of the immolated animals must have been between eleven and twelve thousand, and this in a year when the pilgrims were comparatively few in number. Besides five hundred and five latrines provided at Mina, a special trench was dug for each tent. These thousands of trenches, and the excremental matter left anywhere by the lowest classes of pilgrims, exhaled a hurtful odor, for the neutralization of which the writer had tried in vain to obtain a disinfectant that could be used over an extent of country requiring three quarters of an hour to go from one end to the other, and half an hour for crossing its breadth.

HEALTH IN MICHIGAN.—Reports to the State Board of Health for the week ending March 3, 1883, indicate that consumption has increased, and that remittent fever and typho-malarial fever have slightly increased in area of prevalence.

Compared with the average for the month of February in the preceding six years, erysipelas and neuralgia were more prevalent; and remittent fever, pneumonia, diphtheria, and whooping-cough, less prevalent during the month of February, 1883.

Including reports by regular observers and by others, diphtheria was reported present during the week ending March 3, and since, at twelve places, scarlet fever at sixteen places, measles at nine places, and smallpox (one case), at Detroit, March 3.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 5 TO MARCH 12, 1883.

BROWN, HARVEY E., *Major and Surgeon.*—To be temporarily assigned to duty at Mount Vernon Barracks, Ala., during the absence on leave of Captain T. A. Cunningham, Assistant Surgeon.—*Par. 2, S. O. 17, Department of the South, March 6, 1883.*

HOPKINS, WILLIAM E., *First Lieutenant and Assistant Surgeon.*—The leave of absence granted December 28, 1882, is extended two months.—*Par. 5, S. O. 56, A. G. O., March 9, 1883.*

THE MEDICAL NEWS *will be pleased to receive early intelligence of local events of general medical interest, or of matters which it is desirable to bring to the notice of the profession.*

Local papers containing reports or news items should be marked.

Letters, whether written for publication or private information, must be authenticated by the names and addresses of their writers—of course not necessarily for publication.

All communications relating to the editorial department of the NEWS *should be addressed to No. 1004 Walnut Street, Philadelphia.*